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TNIK	1	MASDSPARSLDIDLSALRDPAGIFELVEVGVNGTYGVYKGRHVKTGQLAAIKVMDVTGDEEEIKQ	EINMLKKYSHHR
NIK	1	MANDSPAKSLVDIDLSLRDPAGIFELVEVGVNGTYGVYKGRHVKT-VTAAIKVMDVTGDEEEITL	EINMLKKYSHHR
TNIK	81	NIATYYGAFIKKNPPGMDQLWLVMFCGAGSWTDLKNTKGNLTKEEWIAYICREILRGLSHLH	QHKVIHRDIKGQNVL
NIK	80	NIATYYGAFIKKSPPGHDDQLWLVMFCGAGSITDLKNTKGNLTKEEWIAYISREILRGLAHLH	IEVIHRDIKGQNVL
TNIK	161	LTENAEVKLVDFGVSAQLDRTVGRNRTFIGTPYWMapeviACDENPDATYDFKSDLWSL	LGITAIEMAEGAPPLCDMHMPMR
NIK	160	LTENAEVKLVDFGVSAQLDRTVGRNRTFIGTPYWMapeviACDENPDATYDYRSDLWSC	GITAIEMAEGAPPLCDMHMPMR
TNIK	241	ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQIMKHPFIRDQPNERQVRIQLKDHIDRT	KKKRGEKDETE
NIK	240	ALFLIPRNPAPRLKSKKWSKKFFSFIGCLVKNYMQRPSTEQLLKHPPFIRDQPNERQVRIQLKDHIDRT	KKKRGEKDETE
TNIK	321	YEYSGSEEEEEEN--DSGEPSSILNLPGESTLRRDFLRLQLANKERSEALRRQQLLEQQ--	RENEEHKRQLLAERQKRRIE
NIK	320	YEYSGSEEEEEEN--DSGEPSSILNVPGESTLRRDFLRLQQENKERSEALRRQQLLEQQ	QLREQEYKRQLLAERQKRRIE
TNIK	397	EQKEQRRRLEEQRRREKELRKQQEREQRR--	HYEEQMR--EEERRRAEHEQEYIRRRQLEEEQRQLE
NIK	400	QKEQRRRLEEQRRREARQQEREQRRREQEKKRRLEELERRRKEEEERRRAEEKKRRVEREQEYIRRRQLEEEQRHLE	
TNIK	460	ILQQQLLHEQALLLEYKRRQLEEQRQAERLQRQLKQERDYLVSLOHQREQRPVEKKPLHYKEGMS	PPSEKPAWAKEVEE
NIK	480	ILQQQLLQEQAMLLHDERRPHAQQ-QPPPPQQQDRS--	KPSFHAPE--P--KP--HYDPAQ
TNIK	540	RSRLNRQSSPAMPHKVANRTSDPNIPPRSESFSISGVQPARTPPMLRPVDPQIPH	LVAVKSGQPALTASQSVHEQPTKGL
NIK	532	RAREVQWS--HLASLKN--NVSPVSRSHSFSFSDPSPKFAHHHLRSQDPCPF--	SR-----SEGL
TNIK	620	SGFQEALNVTSHRVEMPRQNSDPTSENPPPLPTRIEKFRSSWLQRCEED--IPPKVPQRTT	SISPALARKNSPGNGSALGPR
NIK	584	S-----QSDSKSE-VPEPT-----QKAWSRSDSDEVPRVFVRTTSRSPVLSRDS	PLQGGGQQNS
TNIK	699	LGSQPIRASNPDLRRTEPILLESPLQRTSSGSSSSSSSTPSSQPGSQGSSERTRVRANSK	SEGSPVLPHEPAK
NIK	640	QAGQRNSTSIEPRLLWERVEKLVPRPGSGSSSGSSNSGSP--GSHPGSQSGSERFRVRS	SSKSEGSPPRQESAA

FIG. 1A



TNIK	779	VKPEESRDITRPSRPA	SYKKAIDEDLTALAKELRELRIEETNRPMKKVTDYSSSSSEESSESSSEEEEDGSESETHDGTVAVS
NIK	716	KKPDXXKEVFR	-----SLKPAGEVDLTALAKELRAV--EDVRPPHKVTDYSSSSSEESGTTDEEEDVEQEGAGDDSTSGP
TNIK	859	DIPRLIPTGAPGSNEQYN	GMVGTGHTSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNFGAGHINLPDLVQQSHS
NIK	788	EDTRAASSPNLSNGETESVK	TMIVHDDVSEPEP---AMTPSKEGTLIVRQTQSASS-----TLQKHK
TNIK	939	PAGTPTTEGLGRVSTHSQEMDSGTEYGMGSS	TKASFPTFPVDPNVMTSPPTDEDEDEEESAAALFTSELRLRQEQAKLNEAR
NIK	846	-----	SSSFTFPFIDPRLQLQISPS-----GTTVTSVVGFSCDGLRPEAIRQDPTR
TNIK	1019	KISVVNVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWGVNLLVGTENG	GLMLLDRSGQGVYNLIINRRRFQQMDVLEGLN
NIK	892	KGSVVNVNPTNTRPQSDTPEIRKYKKRFNSEILCAALWGVNLLVGTES	GLMLLDRSGQGVYPLISRRRFQQMDVLEGLN
TNIK	1099	VLVTISGKKNKLRVYLSWLRNRILHNDPEVEKKQGWITVGDLEGQTHYKVVVKYERIKFLVIALKNAVEIYAWAPKPYHK	
NIK	972	VLVTISGKKDKLRVYLSWLRNKLHNDPEVEKKQGWTTVGDLEGQVHYKVVVKYERIKFLVIALKSSVEIYAWAPKPYHK	
TNIK	1179	FMAFKSFADLQHKPPLLVDLTVEEGQRLKVI	FGSHTGFHVIDVDSGNSYDIYIPSHIQNIITPHAIIVILPKTDGMEMLVCY
NIK	1052	FMAFKSFCELLHKPPLLVDLTVEEGQRLKVI	YGSCAGFHAVDVDSGVSVDIYIPTHIQCSIKPHAIITILPNTDGMELLVCY
TNIK	1259	EDEGVYVNTYGRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAEIRSVETGHLDDGVFMHKKRAQRLKFLCERNDKVFFAS	
NIK	1132	EDEGVYVNTYGRITKDVVLQWGEMPTSVAYIRSNQTMGWGEKAEIRSVETGHLDDGVFMHKKRAQRLKFLCGRNDKVVFFAS	
TNIK	1339	VRSGGSSQVFFMTLNRNSMMNW	
NIK	1212	VRSGGSSQVFFMTLGRTSLLSW	

FIG.-1B





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FIG._2

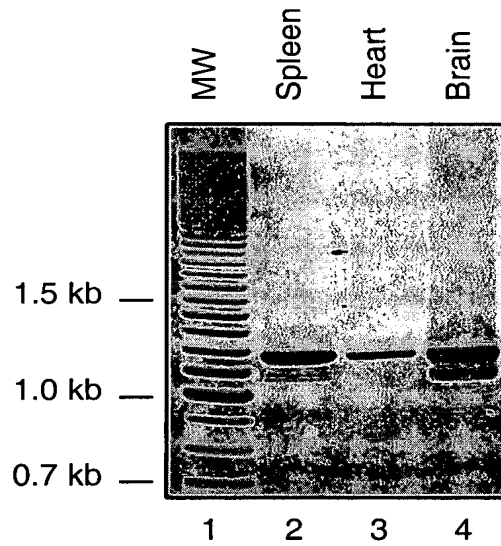
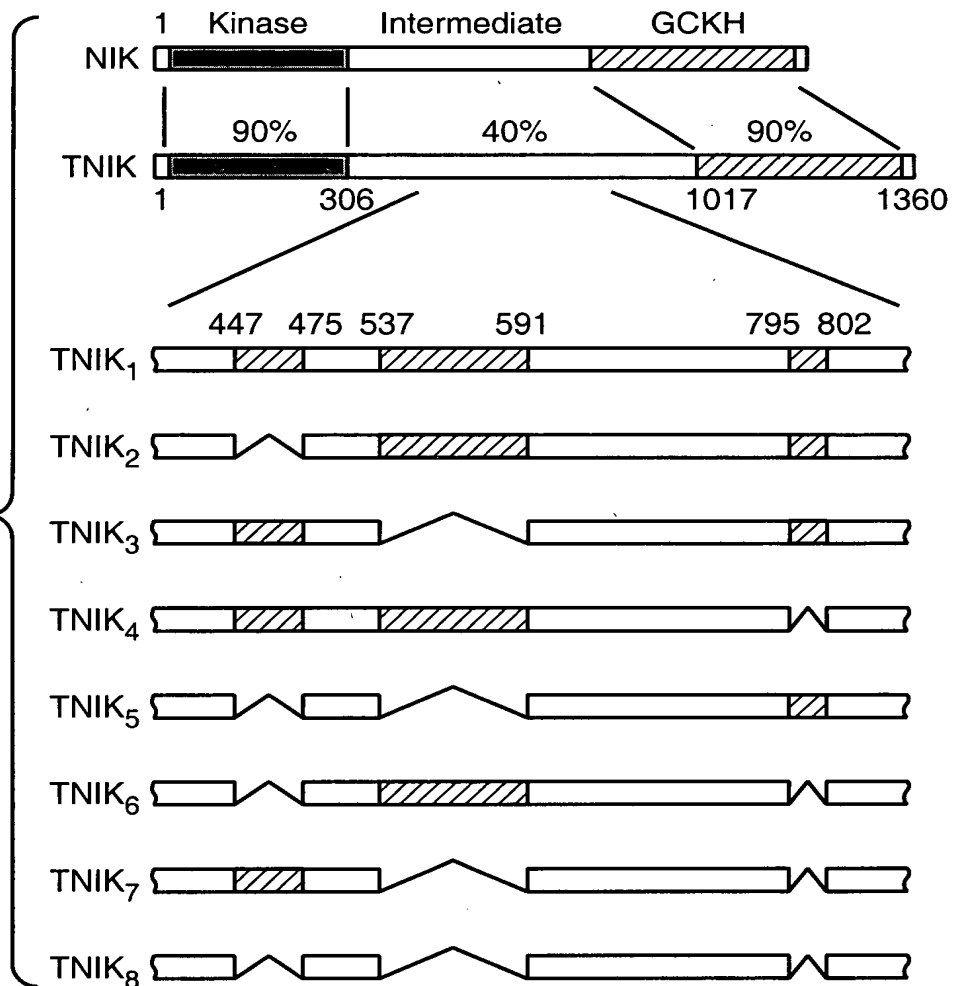


FIG._3





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FIG._4

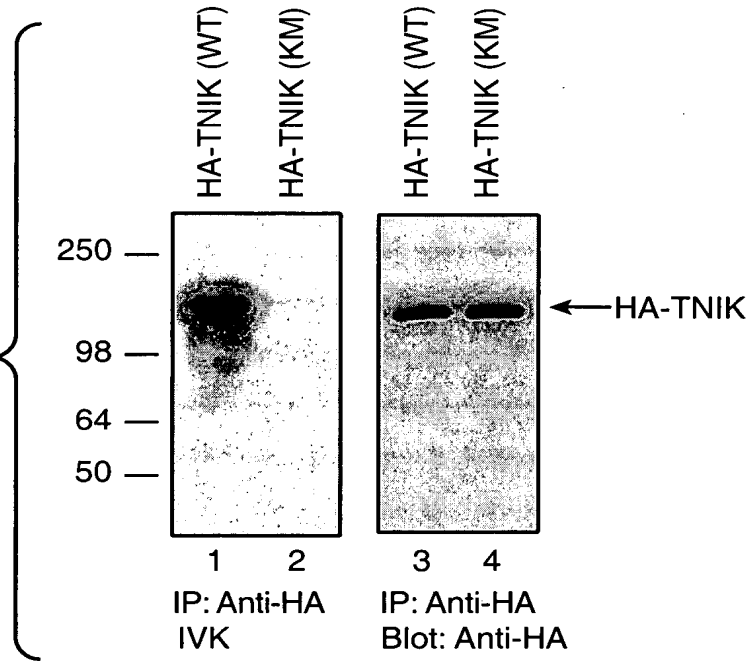


FIG._5A

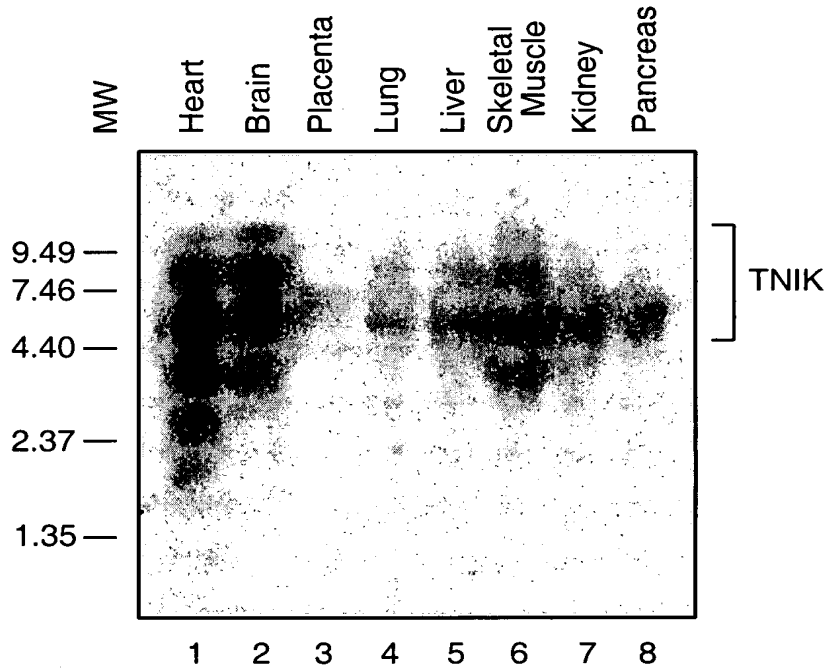
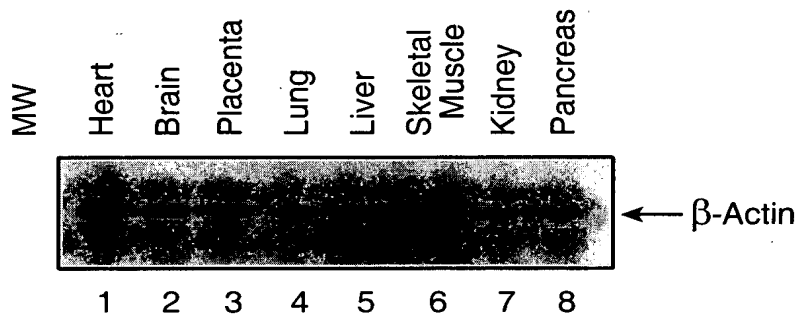
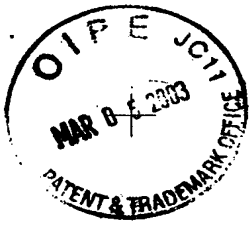


FIG._5B





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FIG._6

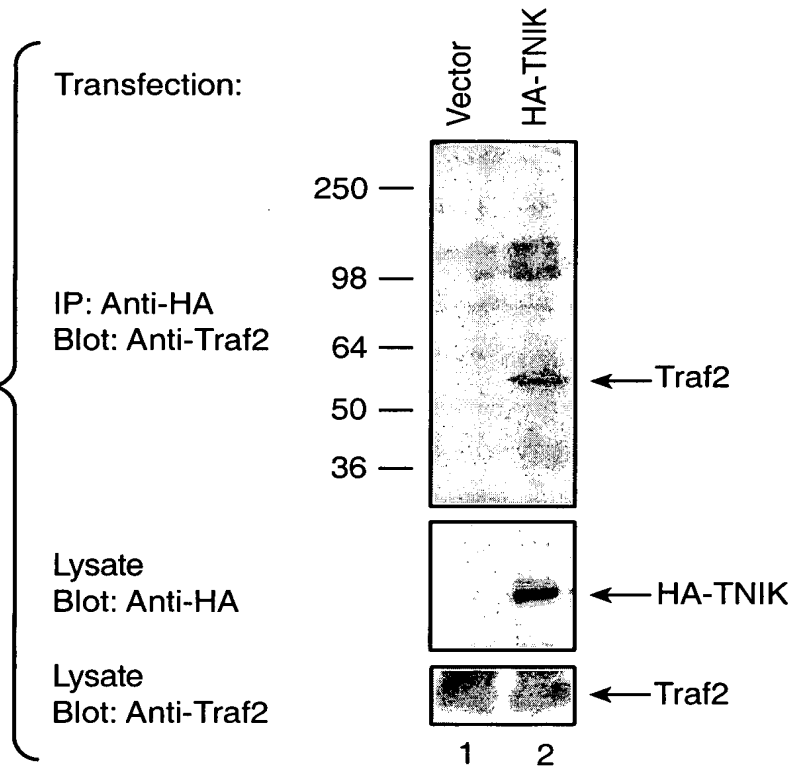


FIG._7

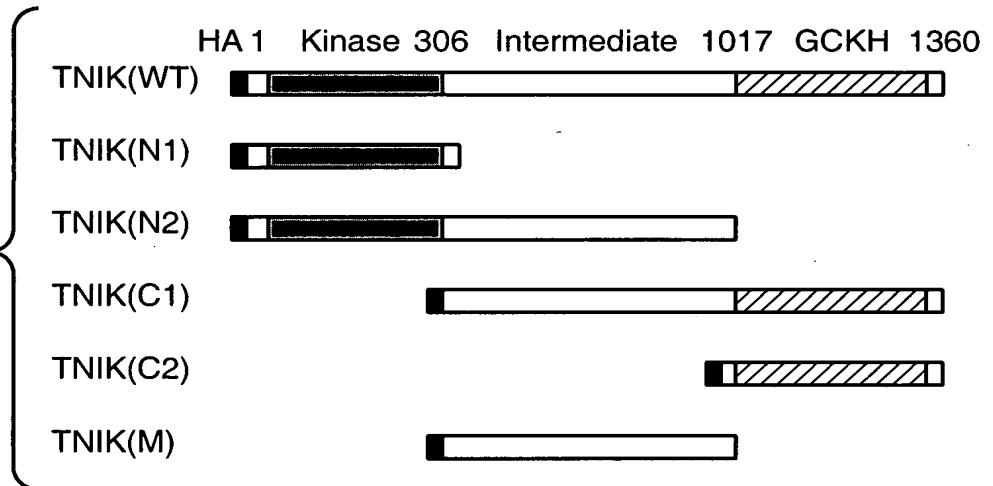




FIG._8A

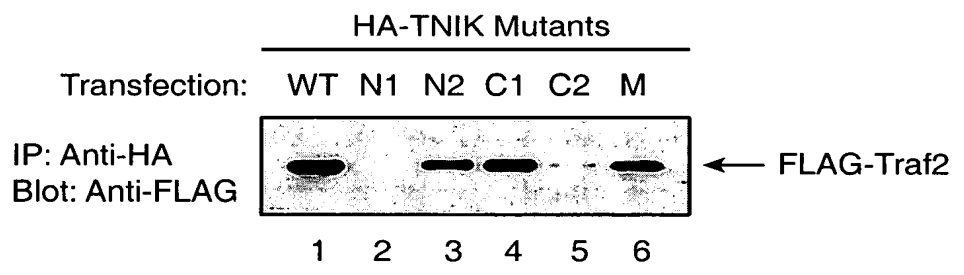


FIG._8B

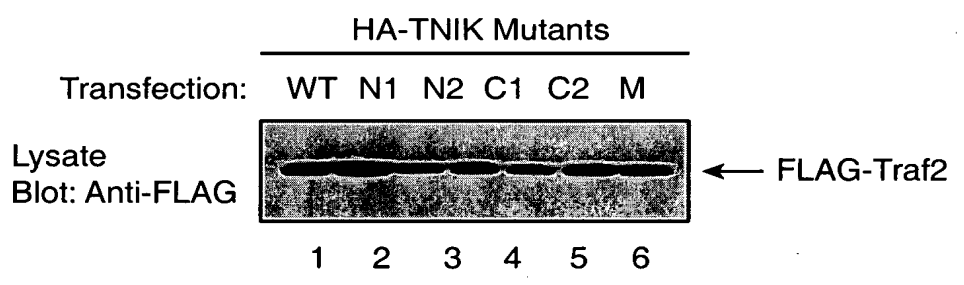


FIG._8C

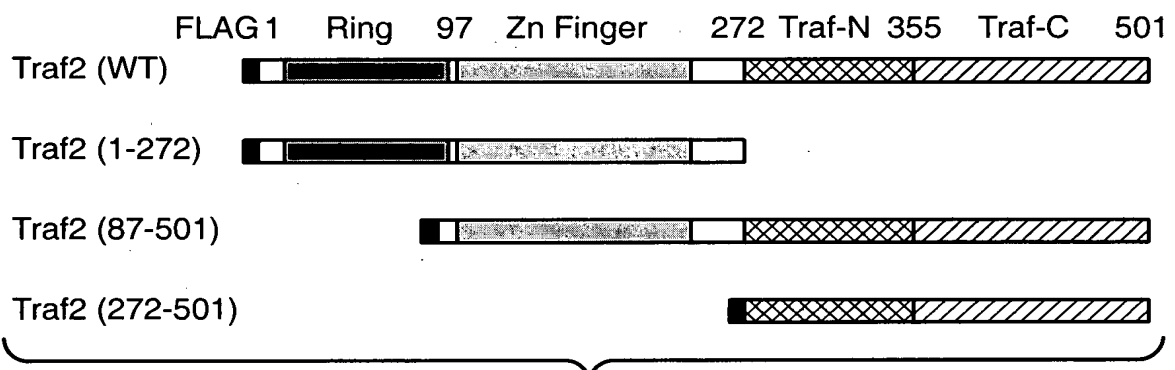
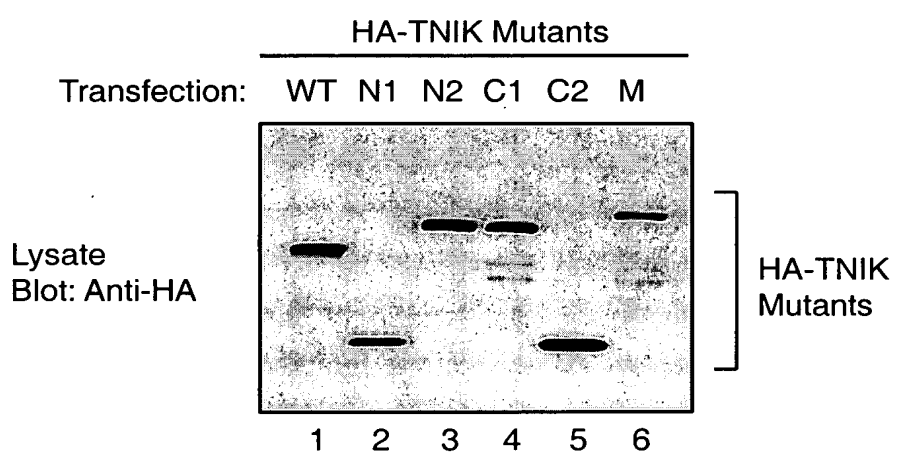
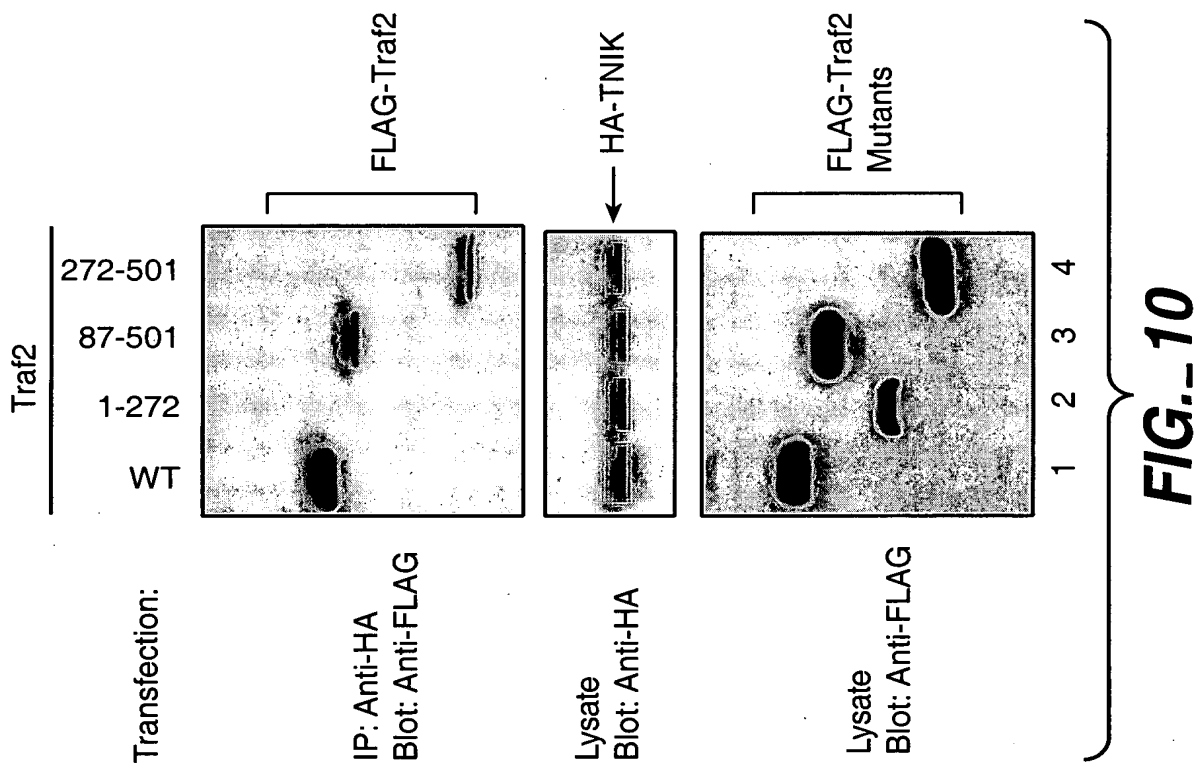
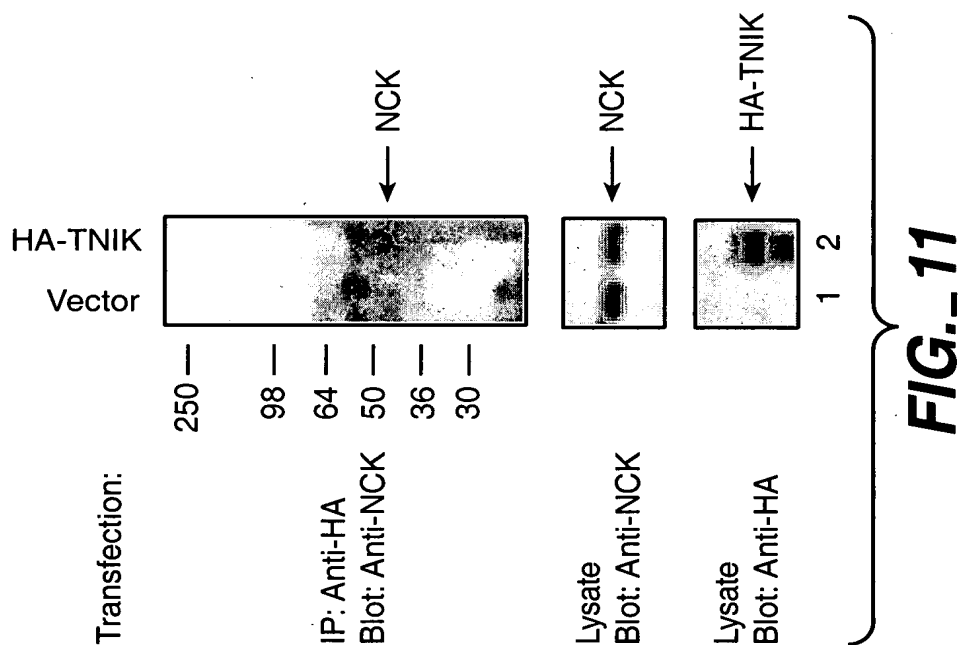


FIG._9



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FIG._12

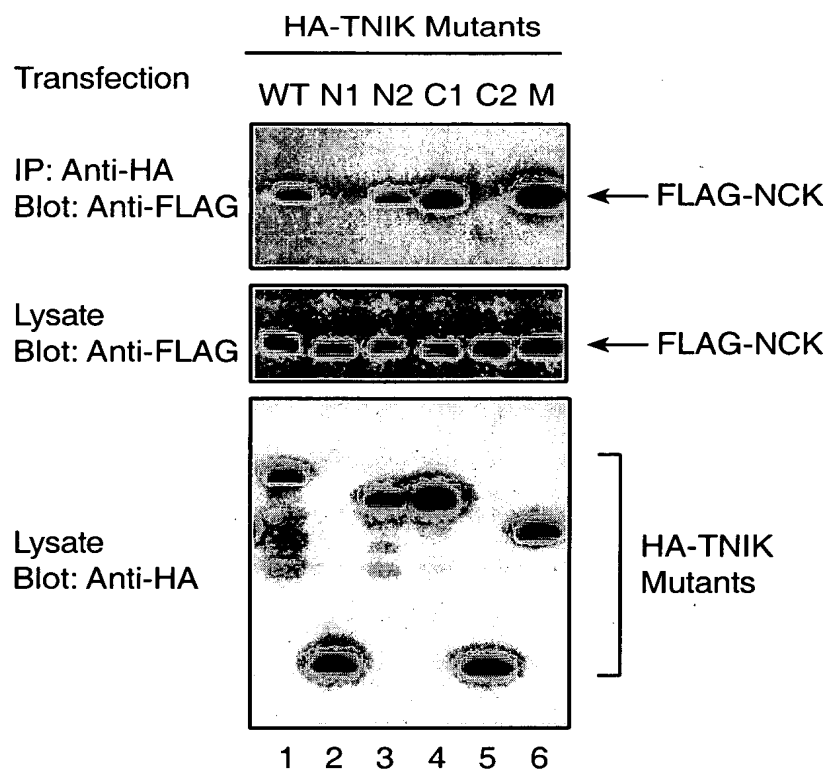
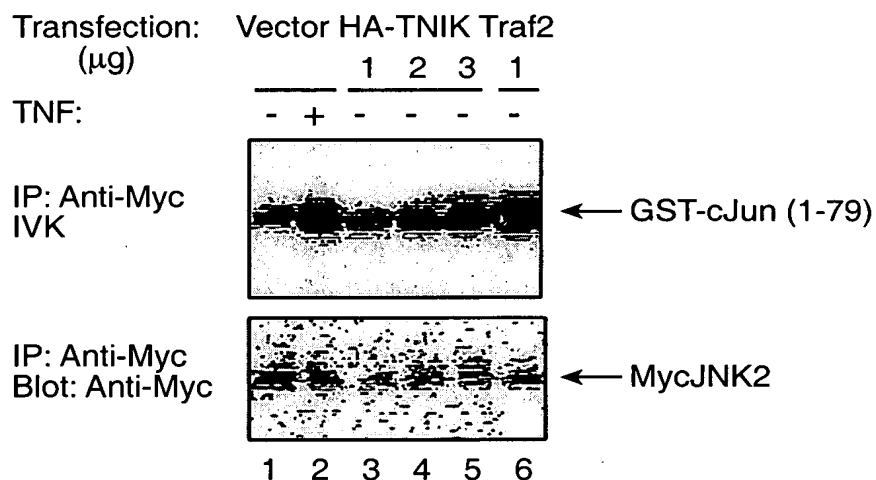
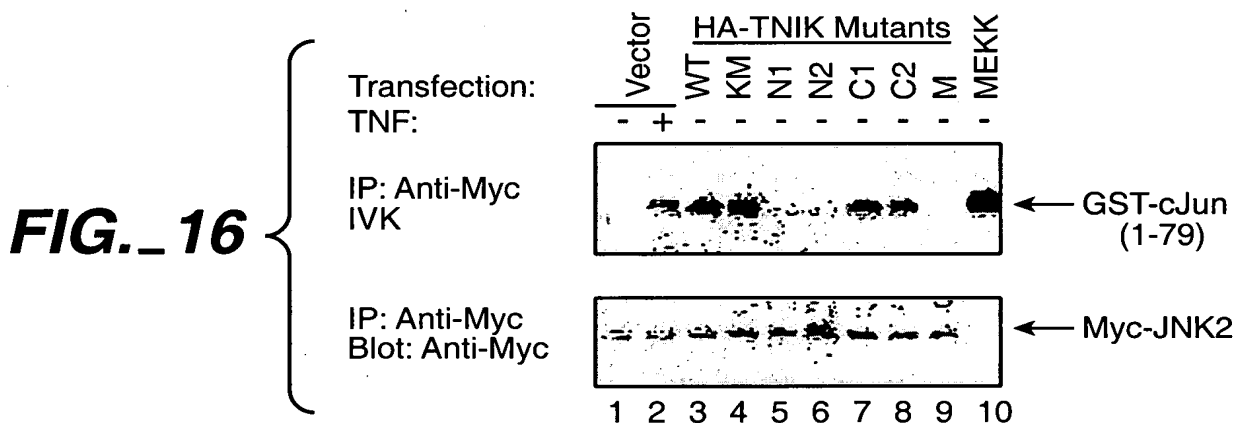
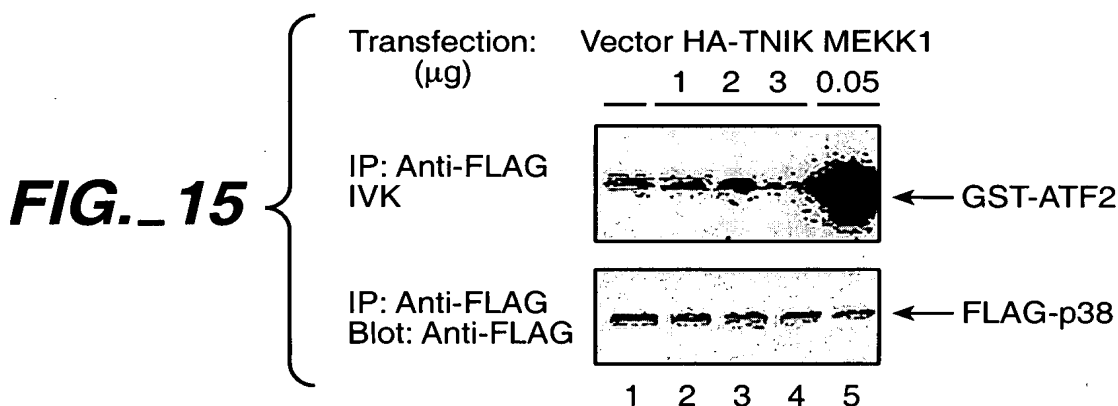
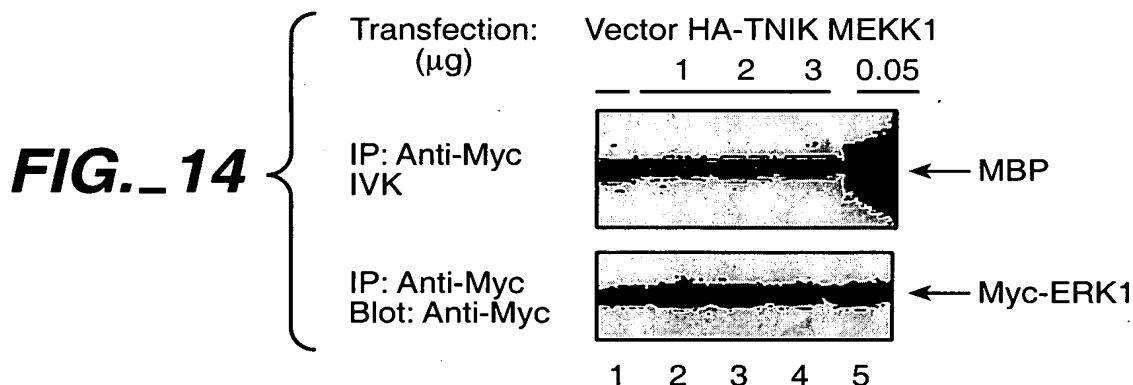


FIG._13





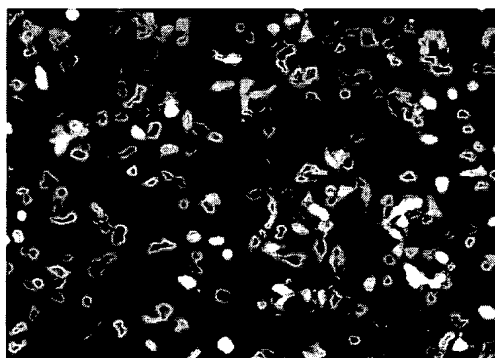
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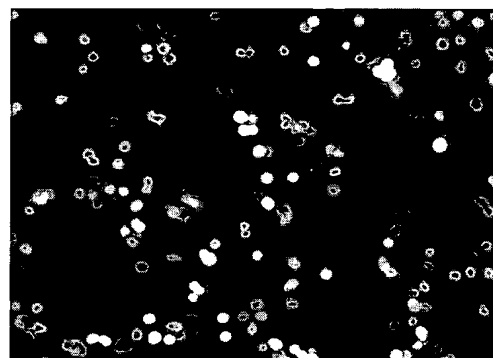


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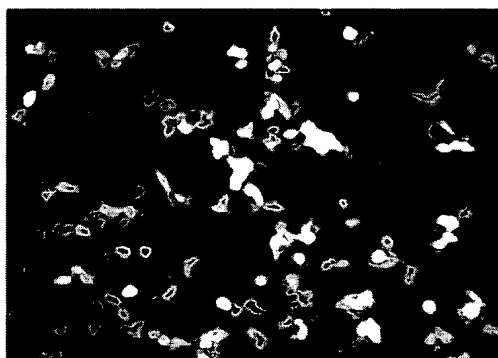
Vector



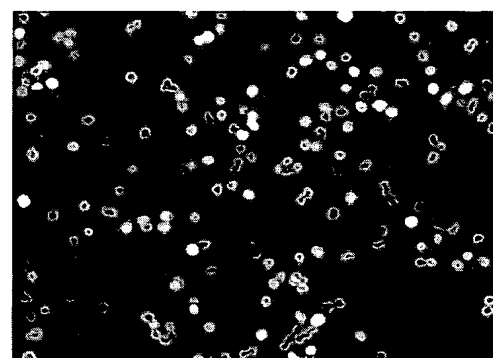
TNIK



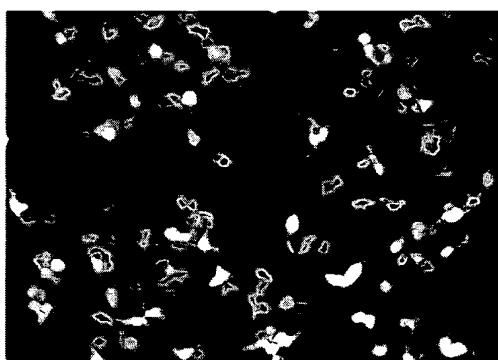
TNIK (KM)



TNIK (N1)



TNIK (C1)



JNK2

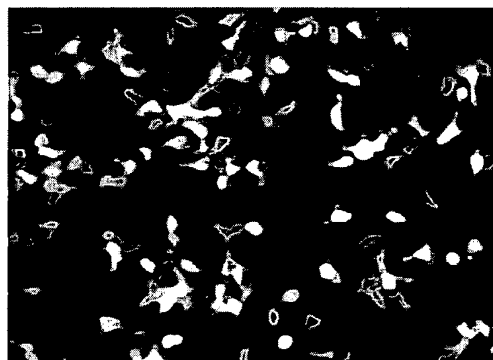


FIG. 17



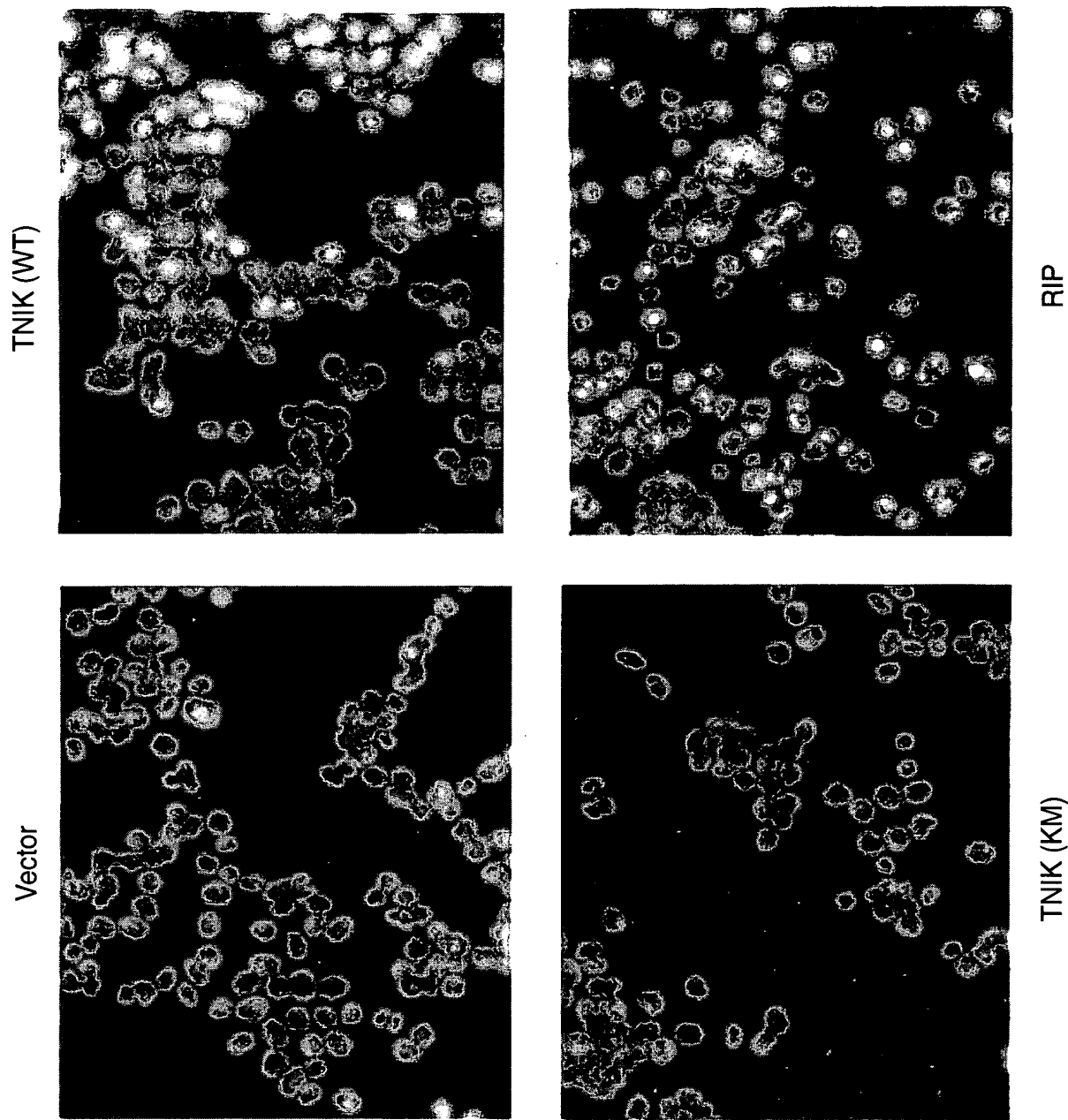
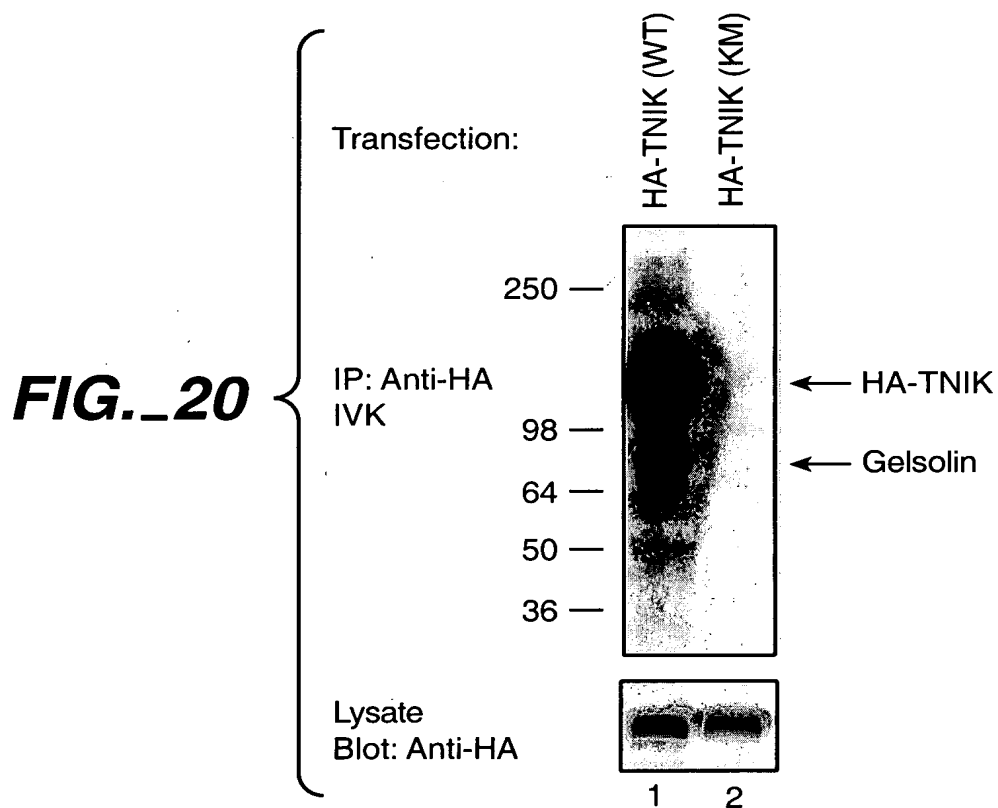
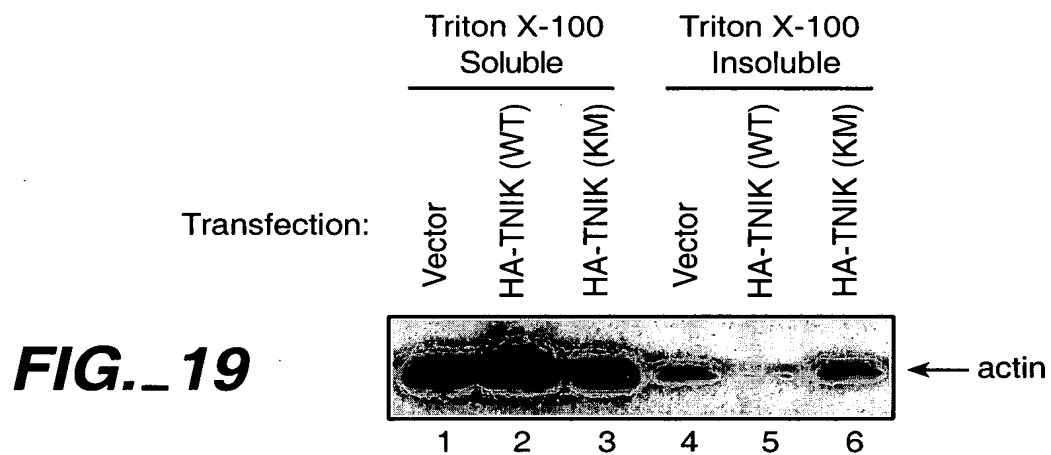
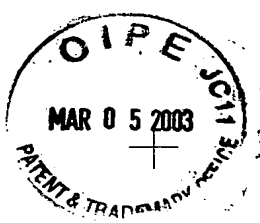


FIG.-18



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ATGGCGAGCGACTCCCCGGCTCGAAGCCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCAATGTCAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCAACAGGGGATGAAGAGGAAGAAATCAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGTTGCTTTTATCAAAAAGAAACCCACAGGCATGGATGACCAA
CTTTGGTTGGTGGAGTTTGTGGTCTGTGCTCACCGACCTGATCAAGAAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGACGGGAAATCTTACGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGTGCTGACTGAAATGACAGAAAGTTAAACTAGTGGACTTTTGGAGTCACT
GCTCAGCTTGATCGAACACAGTGGGCAGGAGGAATACTTTTCAATTGGAACCTCCCTACTGGATGGCACCAAGTTATT
GCCTGTGATGAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGCTTTTGGTATCACCGCCATTGAA
ATGGCAGAAAGGTGCTCCCCCTCTGTGTGACATGCACCCCATGAGAGCTCTCTTCTCATCCCCGGAAATCCAGCG
CCTCGGCTGAAGCTAAGAAAGTGGTCAAAAATTTCCAGTCAATTTATTGAGAGCTGCTTGGTAAAGAAATCACAGC
CAGCGACCAAGCAACAGAAATTTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCCGCAT
CAACTCAAGGACCATATTGATAGAACAAAGAAAGAGGAGAGAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAGAGGAGAAATGACTCAGGAGAGCCAGCTCCATCTGAAATCTGCCAGGGAGTCCGACGCTG
CGGAGGGACTTTCTGAGGCTGCAGCTGGCCCAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGAGAAATGAGGAGCACAAAGCGGAGCTGTGCGGAGCGTCAGAAAGCGCATCGAGGAGCAGAAAGAG
CAGAGCGGCGGCTGGAGGAGCAACAAGCGGAGAGAAAGGAGCTGCGGAAGCAGCAGGAGAGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGAGGAGGAGAGGCGGTGCGGAGCATGAACAGGAATACATCAGGCGACAG
TTAGAGGAGGAGCAGACAGTTAGAGATCTTGACGACAGCAGCTACTGCATGAACAAGCTCTACTTCTGGAATAT
AAGCGCAAAACAATTGGAAGAACAGAGACAAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTA
GTTTCCCTTCAGCATCAGCGGCAGGAGCAGAGGCCCTGTGGAGAAAGCCACTGTACCATTACAAGAGGAATG
AGTCCTAGTGAGAAGCCAGCATGGGCCAAGGAGGTAGAAAGACGGTCAAGGCTCAACCGGCAAGTTCCCCTGCC
ATGCCCTACAAGGTTGCCAACAGGATATCTGACCCCAACCTGCCCCCAAGGTCGGAGTCCCTTCAGCATTAGTGGA
GTTTCAGCCTGCTCGAACACCCCCCATGCTCAGACCAAGTCCATCCCCAGATCCACATCTGGTAGCTGTAAATCC
CAGGGACCTGCTTGAACCGCTCCAGTCAGTGCCAGCAGCCCAAAAGGGCTCTCTGGGTTTCAGGAGGCT
CTGAACGTGACCTCCACCGGTGGAGATGCCACGCCAGAACTCAGATCCCACTCGGAAATCTCTCTCTCCCC
ACTCGCATTGAAAAGTTTGACCCGAAGCTCTTGGTTACGACAGGAAGAAAGACATTCACCAAGGTCCTCAAGA

FIG. 21A

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ACAACTTCTATATCCCAGCATTAGCCAGAAAGAATTCTCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGA
TCTCAACCCATCAGAGCAAGCAACCTGTATCTCGGAGAACTGAGCCCATCTTGGAGAGCCCCCTTGCGAGGACC
AGCAGTGGCAGTTCTCCAGCTCCAGCACCCCTAGCTCCAGCCCCAGCTCCCAAGGAGGCTCCAGCCTGGATCA
CAAGCAGGATCCAGTGAAACCCAGAGAAATCCAGGACATTACCCGGCCAGTCGACCAGCTAGCTACAAAAGCTATA
CCTGCCAAAGGTGAAACCCAGAGAAATCCAGGACATTACCCGGCCAGTCGACCAGCTAGCTACAAAAGCTATA
GATGAGGATCTGACGGCATTAGCCAAAGAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAG
GTGACTGATTACTCCTCCAGTGAGGAGTCAGAAAGTAGCGAGGAAGGAGGAAGATGGAGAGCGGAGACC
CATGATGGGACAGTGGCTGTACGGACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTAC
AATGTGGGAATGGTGGGACGCATGGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAA
GGAACCTTGATGATTAGAGAGACGCTCTGGAGAGAAGACGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGC
CACATCAACCTCCCTGACCTGGTGACAGAGCCATTCTCCAGCTGGAACCCGACTGAGGACTGGGGCGGCTC
TCAACCCATTCCAGGAGATGGACTCTGGGACTGAAATATGGCATGGGAGCAGCACAAAGCCTCTTCAACCCCT
TTTGTGGACCCAGAGTATACAGACGCTCTCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCGAGCT
CTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCCGGTGGTAAATGTA
AACCCAAACCAACATTCGGCCCTCATAGCGACACACAGAAATCAGAAATACAGAAACGATTTCAACTCAGAAATA
CTTTGTGCAGCTCTGTGGGTGTAAACCTTCTGTGGGACTGAAATGGCCCTGATGCTTTTGGACCGAAAGTGGG
CAAGGCAAGTCTATAATCTGATCAACCGGAGCGATTTTCAGCAGATGGATGTCTAGAGGACTGAATGTCCCTT
GTGACAAATTTTCAGGAAAGAAATAAGCTACGAGTTTACTATCTTTTCATGGTTAAGAAACAGAAATACTACATAAT
GACCCAGAAGTAGAAAAGAAACAAGGCTGGATCACTGTTGGGACTTGGAAAGGCTGTATACATTATAAAGTTGTT
AAATATGAAAGGATCAAAATTTTGGTGATTGCCCTTAAAGAAATGCTGTGGAAATATATGCTTGGGCTCCTAAACCG
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GAAGGTCAAAGATTAAAGGTTATTTTGGTTTCACACACTGGTTTCCATGTAAATTTGATGTTGATTCAGGAAACTCT
TATGATATCTACATACCATCTCATATTTCAGGGCAATATCACTCCTCATGCTATTGTCTATTGCTTAAACAGAT
GGAATGGAAAATGCTTGTCTATGAGGATGAGGGGTGTATGTAAACACCTATGGCCGATACCTAAGGATGTG
GTGCTCCAATGGGAGAAAATGCCCCACGCTGTGGCCCTACATTCATTCCAAATCAGATAATGGGCTGGGCGGAGAAA
GCTATTGAGATCCGGTCAGTGGAAACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAGGTTAAAG
TTTCTATGTGAAAGAAATGATAAGGTAATTTTGTGCATCCGTGCGATCTGGAGGAAGTAGCCAAAGTGTTTTTCATG
ACCCCTCAACAGAAAATTCATGATGAACCTGGTAA

FIG. 21B



Application No.: 09/645,456
Applicant: Fu et al.
TITLE: NOVEL GERMINAL CENTER KINASE CELL CYCLE PROTEINS etc.
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TCCCAGCATTAGCCAGAAAGAATTCTCCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATC
AGAGCAAGCAACCTGATCTCCGGAGAACTGAGCCCCATCTTGGAGAGCCCCCTTGACAGAGGACCAAGAGTGGCAGT
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GAAAAGAAACAAGGCTGGATCACTGTTGGGGACTTGGAAAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGG
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TTAAAGGTTATTTTGGTTTCACACACTGGTTTCCATGTAAATTGATGTTGATTTCAGGAAACTCTTATGATATCTAC
ATACCATCTCATATTACAGGGCAATATCACTCCTCATGCTATTGTCTATCTTGCCCTAAACACAGATGGAAATG
CTTGTGTTGCTATGAGGATGAGGGGTGTATGTAAACACCTATGGCCGATAACTAAGGATGTGGTGTCTCCAATGG
GGAGAAATGCCACGCTGTGTGGCCTACATTCCATTCCAATCAGATAAATGGGCTGGGCGAGAAAGCTATTGAGATC
CGGTGAGTGGAAACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAA
AGAAATGATAAGGTATTTTGTGATCCGTCGATCTGGAGGAAGTAGCCCAAGTGTTTTTCATGACCCCTCAACAGA
AATTCATGATGAACCTGGTAA

FIG. 22B



TCCAGCTCCAGCACCCCTAGCTCCAGCCAGCTCCCAAGGAGGCTCCAGCCTGGATCACAAGCAGGATCCAGT
GAACGCCACCAGAGTTCGAGCCAACAGTAAGTCAGAAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAA
CCAGAAGAATCCAGGGACATTACCCGGCCAGTCGACCAAGCTAGCTACAAAAGCTATAGATGAGGATCTGACG
GCATTAGCCAAAGAACTAAGAGAACTCCGGATTGAAGAAACAACCGCCCAATGAAGAAAGGTGACTGATTACTCC
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GCTGTCAGCGACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTG
GGGACGCAATGGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAAGTATTCAAGAGAAAGGAACCTTGATGATT
AGAGAGACGCTCGGAGAGAAAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCT
GACCTGGTGCAGCAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGAGCTGGGGCGCTCTCAACCCATTCCCAG
GAGATGGACTCTGGGACTGAATATGGCATGGGAGCAGCACCAAGCCCTCCTTCACCCCTTGTGGACCCCCAGA
GTATACCGACGCTCTCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCGAGCTCTGTTTACTAGCGAA
CTTCTTAGGCCAAGAACAGGCCAACTCAATGAAGCAAGAAAGATTTGCGTGGTAAATGTAAACCCCAACCATTT
CGGCCCTCATAGCGACACACAGAAAATCAGAAAATACAGAAAACGATTCAACTCAGAAAATACTTTGTGCAGCTCTG
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CCATCTCATATTCAGGGCAATATCACTCCTCATGCTATTGTCTATCTTGCCTAAACAGATGGAATGGAAATGCTT
GTTTGCATAGGATGAGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTCTCCAATGGGGA
GAAATGCCACGCTGTGGCCTACATTCATTCCAATCAGATAATGGCTGGGCGAGAAAGCTATTGAGATCCGG
TCAGTGGAAAACAGGACATTTGGATGGAGTATTTATGCATAAGCGAGCTCAAGGTTAAAGTTTCTATGTGAAAGA
AATGATAAGGTATTTTGTGCATCCGTGCGATCTGGAGGAAGTAGCCCAAGTGTTTTTTCATGACCCCTCAACAGAAAAT
TCCATGATGAAGTGGTAA

FIG._23B



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ATGGCGAGCGACTCCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCCTGCAGGGATCTTT
GAATTGGTGGAACCTTGTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCATGTCAAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGAAATCAAAACAAGAAATTAACATGTTGAAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTGTGGTGCTGGCTCTGTCAACCGACCTGATCAAGAACAACAAGGTAACACAGTTG
AAAGAGAGTGGATTGCATACATCTGCAGGGAAATCTTACGGGGCTGAGTCACCTGCACAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAATGCGAGAAATTAAACTAGTGGACTTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGCAGGAGGAATACTTTTCAATTGGAACTCCCTACTGGATGGCACCAAGATTATT
GCCGTGATGAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAAGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCTCTCATCCCCGGAAATCCAGCG
CCTCGGCTGAAGCTAAGAGTGGTCAAAAAAATTCAGTCAATTTATTGAGAGCTGCTTGGTAAAGAAATCACAGC
CAGCGACCAGCAACAGAAACAATTGATGAAGCATCCATTTATACGAGACCAACCTAATGAGCGACAGGTCCGCAATT
CAACTCAAGGACCATATTGATAGAAACAAGAAAGCGAGGAGAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAGAAATGACTCAGGAGAGCCCCAGCTCCATCTCTGAATCTGCCAGGGAGTCCGACGCTG
CGGAGGGAATTTCTGAGGCTGCAGCTGGCCAAACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAAATGAGGAGCAACAAGCGGAGCTGCTGGCGAGCGTCAGAAAGCGCATCGAGGAGCAGAAAGAG
CAGAGGCGGGCTGGAGGAGCAACAAGCGGAGAGAAAGAGCTGCGGAAAGCAGCAGGAGAGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCGGAGGAGGAGGAGGCGTGGGAGCATGAACAGGAATACATCAGGCGGACAG
TTAGAGGAGGAGCAGACAGTTAGAGATCTTGACGACAGCTACTGTCATGAACAAGCTCTACTTCTGGAATAT
AAGCGCAACAATTGGAAGAACAGAGACAAGCAGAAAGACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTA
GTTTCCCTTCAGCATCAGCGGCAGGAGCAGAGGCCCTGTGGAGAAAGCCACTGTACCATTAACAAGAGGAATG
AGTCCTAGTGAGAAGCCAGCATGGGCCAAGGAGGTAGAAGAACGGTCAAGGCTCAACCGGCAAGTTCCCCCTGCC
ATGCCCTACAAGGTTGCCAACAGGATATCTGACCCCCAACCTGCCCAAGGTCGGAGTCTTTCAGCATTAGTGGA
GTTTCAGCCTGCTCGAACACCCCCCATGCTCAGACCCAGTCCGATCCCCAGATCCACATCTGGTAGCTGTAAATCC
CAGGGAACCTGCTTGAACCGCTCCCAAGTCAAGTCAAGCAGCAGCCCCACAAGGGCCCTCTCTGGGTTTCAGGAGGCT
CTGAACGTGACCTCCCAACCGGTGGAGATGCCACGCCAGAACTCAGATCCACCTCGGAAATCCCTCTCTCCCC
ACTCGCATTGAAAAGTTTGACCGAAGCTCTTGTTACGACAGGAAGAGACATTCACCAAAAGGTGCCCTCAAAGA
ACAACTTCTATATCCCCCAGCATTAGCCAGAAAAGAAATTTCTCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGA

FIG.-24A

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TCTCAACCCATCAGAGCAAGCAACCCCTGATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCTTGCAGAGGACC
AGCAGTGGCAGTTCTCCAGCTCCAGCACCCCTAGCTCCAGCCAGCTCCCAAGGAGGCTCCAGAGCCTGGATCA
CAAGCAGGATCCAGTGAAACGACACAGAGTTCGAGCCAAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCCATGAG
CCTGCCAAGGTGAACCCAGAGAATCCAGGGACATTACCCGGCCAGTCGACCGAGCTGATCTGACGGCATTAGCC
AAAGAACTAAGAGAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAAGTGACTGATTACTCCTCCTCCAGT
GAGGAGTCAGAAAGTAGCGAGGAAGAGAGGAAGATGGAGAGCGAGACCCCATGATGGGACAGTGGCTGTTCAGC
GACATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAAATGTGGGAATGTTGGGACGCAT
GGGCTGGAGACCTCTCATGCGGACAGTTTCAGCGGCAGTATTTCAAGAGAGGAACCTTGATGATTAGAGAGACG
TCTGGAGAGAAGAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTG
CAGCAGAGCCATTCTCCAGCTGGAAACCCGACTGAGGGACTGGGGCGCTCTCAACCCATTCACGAGAGATGGAC
TCTGGGACTGAATATGGCATGGGAGCAGCACCAAGCCTCCTTCAACCCCTTTGTGGACCCAGAGTATACCCAG
ACGTCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCGAGCTCTGTTACTAGCGAACTTCTTAGG
CAAGAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGGTAAATGTAAACCCCAACCAACATTCGGCCTCAT
AGCGACACACAGAAATCAGAAATACAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTA
AACCTTCTGGTGGGACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAGTCTATAATCTGATC
AACCGAGGCGATTTCAGCAGATGGATGTGTAGAGGACTGAATGTCTTGTGACAATTTTCAGGAAAGAAAGAAAT
AAGCTACGAGTTTACTATCTTTCATGGTTAAGAAACAGAAATACTACATAAATGACCCAGAAAGTAGAAAGAAACAA
GGCTGGATCACTGTTGGGACTTGGAAAGGCTGTATACATTATAAAGTTGTTAAATATGAAGGATCAAAATTTTGTG
GTGATTGCCCTTAAAGAAATGCTGTGGAATATATGCTTGGCTCCTAAACCGTATCATATAATTCATGGCATTTAAG
TCTTTTGCAGATCTCCAGCACAGCCCTCTGCTAGTTGATCTCAGGTAGAAAGGTCAAAGATTAAGGTTATT
TTTGTTTCACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCAT
ATTCAGGGCAATATCACTCCCTCATGCTATTGTCACTCTTGCCCTAAAACAGATGGAATGGAATGCTTGTGCTAT
GAGGATGAGGGGTGTATGTAAACACCTATGGCCGGATAAATAAGGATGTGTGCTCCTCAATGGGAGAAATGCC
ACGCTGTGGCCTACATTCAATCCAAATCAGATAATGGGCTGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAA
ACAGGACATTTGGATGGAGTATTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAG
GTATTTTGTGCATCCGTGCGATCTGGAGGAAGTAGCCAAAGTGTTTTTCATGACCCCTCAACAGAAATTCATGATG
AACTGGTAA

FIG._24B

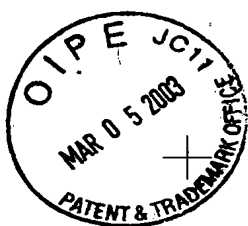


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ATGGCGAGCGACTCCCGGCTCGAAGCCTGGATGAAATAGATCTCTCGGCTCTGAGGGACCCCTGCAGGGATCTTT
GAATTGGTGGAACTTGTGGAAATGGAACATACGGGCAAGTTTATAAGGGTCGTCTCATGTCAAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTACAGGGGATGAAGAGGAAGAAATCAAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGCTGCTTTTATCAAAAAGAAACCCACAGGCATGGATGACCAA
CTTTGGTTGGTATGGAGTTTGTGGTCTGTCTGTCCGACCTGATCAAGAACACAAAAGGTAAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAATCTTACGGGGCTGAGTCACCTGCACCAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGCTCTGTGCTGACTGAAATGCAAGTAAACTAGTGGACTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGGCAGGAGGAATACTTTTCATTGGAACTCCCTACTGGATGGCACAGAAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTTGGGTATCACCGCCATTGAA
ATGGCAGAAAGTGCTCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCCCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGCTAAGAAAGTGGTCAAAAATTCAGTCAATTTATGAGAGCTGCTTGGTAAAGAAATCACAGC
CAGCGACCCAGCAACAGAAACAATTGATGAAGCATCCATTATACGAGACCAACCTAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAGAGAGCGAGGAGAAAGATGAGACAGAGTATGAGTACAGTGA
AGTGAGGAAGAGAGGAGAAATGACTCAGGAGAGCCAGCTCCATCCTGAATCTGCCAGGGAGTCGACGCTG
CGGAGGACTTTCTGAGGCTGCAGCTGGCCACAAGGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAAATGAGGAGCACAAAGCGGCAGCTGTGGCCGAGCGTCAAGAGCGCATCGAGGAGCAGAAAGAG
CAGAGCGCGGCTGGAGAGCAACAAGCGGAGAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCG
CACTATGAGGAGCAGATGCGCGGAGGAGGAGAGCGTGGGAGCATGAACAGGAATATAAGCGCAAAACAA
TTGGAAGAACAGAGACAAAGCAAGAACTGCAGAGGCAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGCAGGAGCAGAGGCTGTGGAGAAAGCCACTGTACCATTACAAAGAAAGGAATGAGTCTTAGTGAG
AAGCCAGCATGGGCCAAGGAGATCCACATCTGGTAGCTGTAAATCCACAGGAGCTGCTTGACCGCTCCAG
TCAGTGACAGCAGCCCCACAAGGGCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACCTCCACCGCGTGGAG
ATGCCACGCCAGAACTCAGATCCCACCTCGGAAAATCCTCCTCTCCCCACTCGCATTGAAAAGTTTGACCCGAAGC
TCTTGGTTACGACAGGAAGAACATTCACCAAAAGGTGCTCAAGAAACAACCTCTATATATCCCCAGCATTAGCC
AGAAAGAAATCTCCTGGGAATGGTAGTGTCTTGGGACCCAGACTAGGATCTCAACCCATCAGAGCAAGCAACCTT
GATCTCCGGAGAACTGAGCCCCATCTTGGAGAGCCCCCTTGCAAGGACCCAGCAGTGCCAGTTCTCCAGCTCCAGC
ACCCCTAGCTCCAGCCCAGCTCCCCAAGGAGGCTCCAGCCTGGATCACAAAGCAGGATCCAGTGAACGCACCAGA

FIG._25A

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GTTCGAGCCAACAGTAAGTCAGAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAACCCAGAAGAATCC
AGGGACATTACCCGGCCAGTCGACCCAGCTAGCTACAAAAAGCTATAGATGAGGATCTGACGGCATTAGCCAAA
GAAC TAAGAGAACTCCGGATTGAAGAAAACAAACCGCCCAATGAAGAAGGTGACTGATTACTCTCTCCAGTGAG
GAGTCAGAAAAGTAGCGAGGAAGAGGAGGAAGATGGAGAGCGAGACCCCATGATGGGACAGTGGCTGTTCAGCGAC
ATACCCAGACTGATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGGTGGGACGCATGGG
CTGGAGACCTCTCATGCGGCACAGTTTCAGCGGCAGTATTTCAAGAGAAAGGAACCTTGATGATTAGAGAGACGTCT
GGAGAGAAAGAGCGATCTGGCCACAGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTGCGAG
CAGAGCCATTCTCCAGCTGGAACCCCGACTGAGGGACTGGGGCGGCTCTCAACCCATTCCAGGAGATGGACTCT
GGGACTGAATATGGCATGGGGAGCAGCACCAAGCCTCCTTCAACCCCTTTGTGGACCCAGAGTATACCGACAG
TCTCCCACTGATGAAGATGAAGAGGATGAGGAATCATCAGCCGCGAGCTCTGTTTACTAGCGAACTTCTTAGGCCAA
GAACAGGCCAAACTCAATGAAGCAAGAAAGATTTCGGTGTAAATGTAAACCCCAACCAACATTCGGCCTCATAGC
GACACACCAGAAAATCAGAAAAATACAAGAAAACGATTCAACTCAGAAAATACCTTTGTGCGAGCTCTGTGGGTGTAAAC
CTTCTGTGGGACTGAAAAATGGCCTGATGCTTTTGGACCCGAAGTGGGCAAGGCAAGTCTATAATCTGATCAAC
CGGAGCGGATTTACGACAGATGGATGTGCTAGAGGGACTGAATGTCTTGTGACAAATTCAGGAAGAAGATAAG
CTACGAGTTTACTATCTTTTCATGTTTAAGAAACAGAAATACATACATAATGACCCAGAAAGTAGAAAAGAAACAAGGC
TGGATCACTGTTGGGACTTGGAGGCTGTATACATTATAAAGTTGTTAAATATGAAAGGATCAAAATTTTGGTG
ATTGCCCTTAAAGAAATGCTGTGGAATAATATGCTTGGGCTCCTAAACCGTATCATATAATTCATGGCATTTAAGTCT
TTTGCAGATCTCCAGCACAAAGCCTCTGCTAGTTGATCTCAGGTAAGAAAGTCAAGATTAAAGTTATTTT
GGTTCACACACACTGGTTTCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCTCATATTT
CAGGGCAATATCACTCCTCATGCTATTGTCATCTTGCCTAACACAGATGGAAATGGAAATGCTTGTGCTATGAG
GATGAGGGGTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGAGAAAATGCCACG
TCTGTGGCCCTACATTCAATCCAAATCAGATAATGGGCTGGGCGGAGAAAGCTATTGAGATCCGGTCAGTGGAAACA
GGACATTTGGATGGAGTATTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAGGTA
TTTTTTGTCATCCGTGCGATCTGGAGGAAGTAGCCAAGTGTTTTTCATGACCCCTCAACAGAAAATTCATGATGAAC
TGGTAA

FIG. 25B

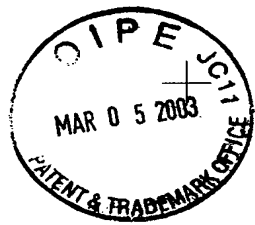




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ATGGCGAGCGACTCCCCGGCTCGAAGCCCTGGATGAATAAGATCTCTCGGCTCTGAGGACCCCTGCAGGGATCTTT
GAATGGTGGAACTTGTGGAAATGGAACATACGGGCAAGTTTATAAGGTCGTCTATAGGTCGTCATAAAGCGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCAAGGGGATGAAGAGGAAGAAATCAAAACAAGAAATTAACATGTTGAAGAAA
TATTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACAGGCATGGATGACCAA
CTTTGGTTGGTATGGAGTTTGTGGTGCTGGCTCTGTACCGACCTGATCAAGAAACACAAGAGTAACACGTTG
AAAGAGGAGTGGATTGCATACATCTGCAGGGAATCTTACGGGGCTGAGTCACTGCACAGCATAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTCTTGCTGACTGAAAATGCAGAAAGTTAAACTAGTGGACTTTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGCAGGAGGAATACTTTCAATTGGAACCTCCTACTGGATGCGACCAAGATTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGCTTTTGGGTATCACCGCCATTGAA
ATGGCAGAAAGTGCTCCCCCTCTCTGTGACATGCAACCCCATGAGAGCTCTCTTCTCTCATCCCCCGGAATCCAGCG
CCTCGGCTGAAGTCTAAGAGTGTCAAAAAAATTCAGTCAATTTATGAGAGCTGCTTGGTAAAGAAATCACAGC
CAGCGACAGCAACAGAACAAATTGATGAAGCATCCATTTATACGAGACCACTTAATGAGCGACAGGTCCCGCAT
CAACTCAAGGACCATATTGATAGAACAAAGAAAGAGCGAGGAGAAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAGAGGAGGAATGACTCAGGAGAGCCAGCTCCATCTCTGAATCTGCCAGGGAGTCGACGCTG
CGAGGGACTTTCTGAGGCTGCAGCTGGCCAAACAAGAGCGTTCTGAGGCCCTACGGAGGCAGCAGCTGGAGCAG
CAGCAGCGGAGAAATGAGGAGCACAAAGCGGAGCTGTGCGGAGCGTCAAGCGCATCGAGGAGCAGAAAAGAG
CAGAGCGGGCGGCTGGAGGAGCAACAAGCGGAGAGAGAGGAGCTGCGGAAGCAGCAGGAGAGGGAGCAGCGCCGG
CACTATGAGGAGCAGATGCGCCGGAGGAGGAGGAGCGGTGCGGAGCATGAACAGGAATATAAGCGCAAAACA
TTGGAAGAACAGAGACAAAGCAAGACTGCAGAGGAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGGAGCAGAGGCTGTGGAGAGAGAGCCACTGTACCAATTAACAAGAAAGGAATGAGTCTTAGTGAG
AAGCCAGCATGGGCCAAGGAGGTAGAAGAACGGTCAAGGCTCAACCGGCAAGTTCCCTGCCATGCCCTCACAA
GTTGCCAACAGGATATCTGACCCCAACCTGCCCCCAAGGTGCGAGTCTTCAAGCATTAGTGGAGTTCAGCCTGCT
CGAACACCCCATGCTCAGACCAGTCTGATCCCCAGATCCCACATCTGGTAGCTGTAAATCCAGGGACCTGCC
TTGACCGCTCCAGTCAGTGACGAGAGCCCCACAAGGGCTCTCTGGGTTTCAGGAGGCTCTGAAACGTGACC
TCCACCGCGTGGAGATGCCACGCCAGAACTCAGATCCCACTCGGAAAATCTCTCTCCCCACTCGCATTGAA
AAGTTTGACCGGAGCTTTGGTTACGACAGGAAGAGACATTCACCAAGGTGCTCTCAAGAAACAACCTCTATA
TCCCCAGCATTAGCCAGAAAAGAAATCTCTCTGGGAATGGTAGTGCTCTGGGACCCAGACTAGGATCTCAACCCATC

FIG. 26A



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AGAGCAAGCAACCCTGATCTCCGGAGAACTAGACCCCATCTTGGAGAGCCCCCTTGACAGAGGACCAGCAGTGCGCAGT
TCCTCCAGCTCCAGCACCCCTAGCTCCAGCCAGCTCCCAAGGAGGCTCCAGGCTCCAGCTGGATCACAAAGCAGGATCC
AGTGAACGCCACCAGAGTTCGAGCCCAACAGTAAGTCAGAAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAAGGTG
AAACAGAAAGAAATCCAGGGACATTAACCCGGCCAGTCGACACAGCTGATCTGACGGCATTAGCCAAAGAACTAAGA
GAACTCCGGATTGAAGAAACAAACCGCCCAATGAAGAGGTGACTGATTACTCTCTCTCCAGTGAGGAGTCAAGAA
AGTAGCGGAGGAGGAGGAAGATGGAGAGAGCGAGACCCCATGATGGGACAGTGGCTGTCAGCGCACATACCCAGAA
CTGATACCAACAGGAGCTCCAGGCAAGCAACGAGCAGTACAATGTGGGAATGGTGGGACGCGCATGGGCTGGAGACC
TCTCATGGGACAGTTTCAGCGGCGAGTATTTCAAGAGAGAAAGAACCTTGATGATTAGAGAGACGTCTGGAGAGAAG
AAGCGATCTGGCCACAGTGACAGCAATGGCTTTTGCTGGCCACATCAACCTCCCTGACCTGGTGCAGCAGAGCCCAT
TCTCAGCTGGAAACCCGACTGAGGAGCTGGGGCGGCTCTCAACCCCATTCCAGAGAGATGGACTCTGGGACTGAA
TATGGCATGGGAGCAGCACCAAGCCCTCTTCAACCCCTTGTGGACCCAGAGTATACAGACGTCTCCCCACT
GATGAAGATGAAGAGGATGAGGAATCATCAGCCGCGAGCTCTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCC
AAACTCAATGAAGCAAGAAAGATTTCCGGTGTAAATGTAAACCCCAACCACTTCGGCCTCATAGCGACACACCA
GAAATCAGAAATAACAAGAAACGATTCAACTCAGAAATACTTTGTGCAAGCTCTGTGGGTGTAAACCTTCTCGTG
GGGACTGAAAATGGCCCTGATGCTTTTGGACCGAAGTGGGCAAGGCAAGTCTATAATCTGATCAACCGGAGGCGGA
TTTCAGCAGATGGATGTGCTAGAGGGACTGAATGTCTTGTGACAAATTCAGGAAAGAAATAAGCTACGAGTT
TACTATCTTTTCATGTTAAGAAACAGAAATACTACATAATGACCCAGAAAGTAGAAAGAAAGAAAGGCTGGATCACT
GTTGGGGACTTGGAGGCTGTATACATTATAAAGTTGTTAAATATGAAGGATCAAAATTTTGGTGATTGCCCTTA
AAGAATGCTGTGGAATAATATGCTTGGGCTCCTAAACCGTATCATATAATTCATGGCATTTAAAGTCTTTTGCAGAT
CTCCAGCACAAAGCCCTGCTAGTTGATCTCAGGTAAGAAAGTCAAGATTAAGGTTATTTTGGTTTCCACAC
ACTGGTTTCCCATGTAATTGATGTTGATTCAGGAAACCTCTTATGATATCTACATACCATCTCATATTCAGGGCAAT
ATCACTCCTCATGCTATTGTCTATCTTGCCCTAAACACAGATGGAATGGAAATGCTTTGTTGCTATGAGGATGAGGGG
GTGTATGTAAACACCTATGGCCGGATAACTAAGGATGTGGTCTCCCAATGGGAGAAATGCCACGCTCTGTGGCC
TACATTCAATCCCAATCAGATAAATGGGCTGGGCGAGAAAGCTATTGAGATCCGGTCCAGTGGAAACAGGACATTTG
GATGGAGTATTTATGCATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAGGTAATTTTTTGCA
TCCGTGCGATCTGGAGGAAGTAGCCCAAGTGTTTTTCATGACCCCTCAACAGAAATTCATGATGAACACTGGTAA>

FIG._26B



TCCAGCTCCAGCACCCCTAGCTCCAGCCAGCTCCCAAGGAGGCTCCAGCCTGGATCACAAGCAGGATCCAGT
GAACGCCACAGAGTTCGAGCCCAACAGTAAGTCAGAAAGGATCACCTGTGCTTCCCCATGAGCCTGCCAAGGTGAAA
CCAGAAGAATCCAGGGACATTACCCGGCCCAAGTCGACCAAGCTGATCTGACGGCATTAGCCAAAGAACTAAGAGAA
CTCCGGATTGAAGAAACAACCCGCCAATGAAGAGGTGACTGATTACTCCTCCTCCAGTGAGGAGTCAGAAAAGT
AGCGAGGAAGAGGAGGAAGATGGAGAGAGCGAGACCCATGATGGACAGTGGCTGTGACGACATACCCAGACTG
ATACCAACAGGAGCTCCAGGCAGCAACGAGCAGTACAATGTGGGAATGTGGGGACGCAATGGGCTGGAGACCTCT
CATCGGCACAGTTTCAGCGGCAGTATTTCAGAGAGAAAGAACCTTGATGATTAGAGAGACGCTCTGGAGAGAAAG
CGATCTGGCCACAGTGACAGCAATGGCTTTGTCTGGCCACATCAACCTCCCTGACCTGGTGACGAGAGCCATTCT
CCAGCTGGAAACCCGACTGAGGACTGGGGCGGTCTCAACCCATTCCAGGAGATGGACTCTGGGACTGAAATAT
GGCATGGGAGCAGCACCAAGCCTCCTTCAACCCCTTTGTGGACCCCGAGATATACCAGACGTCTCCCCACTGAT
GAAGATGAAGAGGATGAGGAATCATCAGCCGCGAGCTCTGTTACTAGCGAACTTCTTAGGCAAGAACAGGCCAAA
CTCAATGAAGCAAGAAAGATTTCGGTGTGTAATGTAAACCCCAACCAATTCGGCCTCATAGCGACACACCAGAA
ATCAGAAAATACAAGAAACGATTCAACTCAGAAAATACTTTGTGCAGCTCTGTGGGTGTAAACCTTCTGTGGGG
ACTGAAAATGGCCTGATGCTTTTGGACCGAAGTGGCAAGGCAAGTCTATAATCTGATCAACCCGAGGCGATT
CAGCAGATGGATGTGCTAGAGGACTGAATGTCTTGTGACAAATTCAGGAAAGAAAGATAAGCTACGAGTTTAC
TATCTTTTCATGGTTAAGAAACAGAAATACTACATAATGACCCAGAAAGTAGAAAGAAACAAAGGCTGGATCACTGTT
GGGACTTGGAGGCTGTATACATATAAAAGTTGTAAATATGAAGGATCAAAATTTTGGTGTGTTGCCCTTAAAG
AATGCTGTGGAAATATATGCTTGGGCTCCTAAACCGTATCATAAATTCATGCGCATTTAAAGTCTTTTGCAGATCTC
CAGCACAAAGCCTCTGCTAGTTGATCTCAGGTAGAAAGGTCAAAGATTAAAGTTATTTTGGTTCAACACT
GGTTCCCATGTAATTGATGTTGATTCAGGAAACTCTTATGATATCTACATACCATCTCATATTCAGGGCAATATC
ACTCCTCATGCTATTGTCATCTTGCCTAAACAGATGGAATGGAAATGCTTGTGCTATGAGGATGAGGGGTG
TATGTAAACACACCTATGGCCGGATAACTAAGGATGTGGTGCTCCAATGGGGAGAAATGCCACGCTCTGTGGCCCTAC
ATTCAATCCCAATCAGATAATGGGCTGGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAAACAGGACATTTGGAT
GGAGTATTATGCATAAGCGAGCTCAAAGGTTAAAGTTCTATGTGAAAGAAATGATAAGGTATTTTGTGCATCC
GTGCGATCTGGAGGAAGTAGCCCAAGTGTTTTTCATGACCCCTCAACAGAAATTCATGATGAACCTGGTAA

FIG._27B





ATGGCGAGCGACTCCCGGCTCGAAGCCCTGGATGAATAGATCTCTCGGCTCTGAGGGACCCCTGCAGGGATCTTT
GAATTGGTGAACTTGTGGAAATGGAACATACGGGCAAGTTTATAAGGTCGTCTCATGTCAAAACGGGCCAGCTT
GCAGCCATCAAGGTTATGGATGTCACAGGGGATGAAGAGGAAGAAATCAAAACAAGAAATTAACATGTTGAAGAAA
TATTTCTCATCACCGGAATATTGCTACATACTATGGTGCTTTTATCAAAAAGAACCCACCAGGCATGGATGACCAA
CTTTGGTTGGTGATGGAGTTTGTGGTGCTGGCTCTGTCAACGACCTGATCAAGAAACACAAAAGGTAACACGTTG
AAAGAGGAGTGGAATTGCATACATCTGCAGGGAAATCTTACGGGGGCTGAGTCACTGCACACAGCATAAAAGTGATT
CATCGAGATATTAAAGGGCAAAATGTTCTTGCTGACTGAAATGTCAGAAAGTTAAACTAGTGGAATTTGGAGTCAGT
GCTCAGCTTGATCGAACAGTGGCAGGAGGAATACTTTCAATTGGAACCTCCCTACTGGATGGCACCAGAAAGTTATT
GCCTGTGATGAAAACCCAGATGCCACATATGATTTCAAGAGTGACTTGTGGTCTTTGGGTATCACCGCCATTGAA
ATGGCAGAAAGTGCTCCCCCTCTCTGTGACATGCACCCCATGAGAGCTCTCTTCTCTCATCCCCCGGAAATCCAGCG
CCTCGGCTGAAGTCTAAGAAAGTGGTCAAAAAAATTCAGTCAATTTATTGAGAGCTGCTTGGTAAAGAAATCACAGC
CAGCGACAGCAACAGAACAAATTGATGAAGCATCCATTTATACGAGACCAACCTAAATGAGCGACAGGTCCGCATT
CAACTCAAGGACCATATTGATAGAACAAAGAAAGCGAGGAGAAAGATGAGACAGAGTATGAGTACAGTGGA
AGTGAGGAAGAAGAGGAGGAATGACTCAGGAGAGCCAGCTCCATCTCTGAATCTGCCAGGGAGTCGACGCTG
CGAGGGACTTTCTGAGGCTGAGCTGGCCAAACAAGAGCGTTCTGAGGCCCTACGAGGCAGCAGCTGGAGCAG
CAGCAGCGGGAGAAATGAGGAGCACAAAGCGCAGCTGTGCCGAGCGTCAAGAACGCGCATCGAGGAGCAGAAAGAG
CAGAGCGGGGCTGGAGGAGCAACAAGCGGAGAGAAAGAGCTGCGGAAAGCAGCAGGAGAGGAGCGCGCGG
CACTATGAGGAGCAGATGCGCCGGAGGAGGAGGAGCGTGGAGCATGAACAGGAATATAAGCGCAAAACAA
TTGGAAGAACAGAGACAAAGCAAGAAAGACTGCAGAGGAGCTAAAGCAAGAAAGAGACTACTTAGTTTCCCTTCAG
CATCAGCGGAGGAGCAGAGGCTGTGGAGAAAGAACCTGTACCATTAACAAGAAAGAAATGAGTCCCTAGTGAG
AAGCCAGCATGGGCCAAGGAGATCCACATCTGGTAGCTGTAAAATCCACAGGACCTGCTTGACCGCTCCAG
TCAGTGACGAGCAGCCACAAAGGGCTCTCTGGGTTTCAGGAGGCTCTGAACGTGACCTCCACCGCTGGAG
ATGCCACGCCAGAACTCAGATCCCACTCGGAAATCCTCTCTCCCACTCGCATTGAAAGTTTGACCGGAAGC
TCTTGGTTACGACAGGAAGAAGACATTCACCAAAAGGTGCCCTCAAAGAACAACTTCTATATCCCCAGCATTAGCC
AGAAAGAAATTCCTCTGGGAATGGTAGTGCTCTGGACCCAGACTAGGATCTCAACCCATCAGAGCAAGCAACCCCT
GATCTCCGGAGAACTGAGCCCATCTTGGAGAGCCCTTGCAGAGGACCCAGCAGTGCGAGTTCTCCAGCTCCAGC
ACCCCTAGCTCCCAGCCAGCTCCCAAGGAGGCTCCCGAGCTGGATCACAAAGCAGGATCCAGTGAAACGCACCCAGA

FIG. 28A



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GTTCGAGCCAAACAGTAAGTCAGAAAGGATCACCTGTGTCTTCCCATGAGCCTGCCAAGGTGAAACACAGAAAGAAATCC
AGGGACATTACCCGGCCAGTCGACCCAGCTGATCTGACGGCATTAGCCAAAGAACTAAGAGAACTCCCGGATTGAA
GAAACAAACCCGCCAATGAAGAAGGTGACTGATTACTCCTCCAGTGAGGAGTCAGAAAGTAGCGAGGAAGAG
GAGGAAGATGGAGAGAGCGAGACCCATGATGGGACAGTGGCTGTGACGACATACCCAGACTGATACCAACAGGA
GCTCCAGGCAGCAACGAGCAGTACAAATGTGGGAATGGTGGGACGCTAGGGCTGGAGACCTCTCTCATGCGGACAGT
TTCAGCGGCAGTATTTCAAGAGAAAGGAACCTTGATGATTAGAGAGACGCTCTGGAGAGAAAGCGATCTGGCCAC
AGTGACAGCAATGGCTTTGCTGGCCACATCAACCTCCCTGACCTGGTGACGAGAGCCATTCTCCAGCTGGAACC
CCGACTGAGGACTGGGGCGGCTCTCAACCCATTCCCAGGAGATGGACTCTGGGACTGAAATATGGCATGGGGAGC
AGCACCAAGCCCTCTTCAACCCCTTTGTGGACCCAGAGTATACCCAGACGTCTCCACTGATGAAGATGAAGAG
GATGAGGAATCATCAGCCGAGCTCTGTTTACTAGCGAACTTCTTAGGCAAGAACAGGCCAAACTCAATGAAGCA
AGAAAGATTTCCGGTGTAAATGTAAACCAACCAATTCGGCCCTCATAGCGACACACAGAAATCAGAAATATAC
AAGAAACGATTCAACTCAGAAATACTTTGTGCAGCTCTGTGGGGTGTAACCTTCTGTGGGGACTGAAAAATGGC
CTGATGCTTTTGGACCGAAGTGGCAAGGCAAGTCTATAATCTGATCAACCGAGGCGGATTTTCAGCAGATGGAT
GTGCTAGAGGGACTGAAATGTCTTGTGACAAATTTTCAGGAAAGAAATAAGCTACGAGTTTACTATCTTTTCATGG
TTAAGAAACAGAAATACATACATAATGACCCAGAAAGTAGAAAAAGAAACAAAGGCTGGATCACTGTTGGGGACTTGGAA
GGCTGTATACATTATAAAGTTGTAAATATGAAAGGATCAAAATTTTGGTGATGCTTTTGCAGATCTCCAGCAACAGCCT
ATATATGCTTGGCTCCCTAAACCGTATCATATAATTCATGGCATTTAAAGTCTTTTGCAGATCTCCAGCAACAGCCT
CTGCTAGTTGATCTCACGGTAGAAGAGGTCAAAGATTAAAGTTATTTTGGTTTCAACACACTGGTTTCCCATGTA
ATTGATGTTGATTTCAGGAAACTCTTATGATATCTACATACCATCTCATATTCAGGGCAATATCACTCCTCATGCT
ATTGTCATCTTGCCCTAAACAGATGGAATGGAATGCTTGTGTTGCTATGAGGATGAGGGGTGATGTAAACACCC
TATGGCCGGATAACTAAGGATGTGGTGCTCCAAATGGGGAGAAAAATGCCACGCTCTGTGGCCATACATTCAATTCCAAT
CAGATAATGGGCTGGGCGAGAAAGCTATTGAGATCCGGTCAGTGGAAACAGGACATTTGGATGGAGTATTTATG
CATAAGCGAGCTCAAAGGTTAAAGTTTCTATGTGAAAGAAATGATAAGGTATTTTGTGCATCCGTGCGATCTGGA
GGAAGTAGCCAAAGTGTTTTTCATGACCCCTCAACAGAAAAATTCATGATGAACCTGGTAA

FIG.-28B



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1 MASDSPARSLDEIDLSALRDPAGIFELVELVNGNGTYGVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEIINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMFCCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLQHKKV IHRDIKGQNVLLTENA EVKLVDFGVSAQLDR
181 TVGRRNTFIGTPYMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHMPMR
241 ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEGSEEEEEENDSGEPSSIINLPGESTLRRDFLRLQLA
361 NKERSEALRRQOLEQQORENEEHKRQLLAERQKRIEEQKEQRRRLLEEQQRRREKELRKQOE
421 REQRRHYEEQMRREEERRRAEHEQEYKQKQLEEQQAERLQRLKQERDYLVS LQHQRQE
481 QRPVEKKPLYHYKEGMPSEKPAWAKEVEERSRLNRQSSPAMPHKVANRISDPNLP PRSE
541 SFSISGVQPARTPPMLRPVDPQI PHLVAVKSGQPALTASQSVHEQPTKGLSGFQEALNVT
601 SHRVEMPRONSDPTSENPPLPTRIEKFDRSSWLRQEEDI PPKVPQRTTISIPALARKNSP
661 GNGSALGPRLGSGQPIRASNPDLRRTEPILESPLQRTSSGSSSSSTPSSQSSQGGSQPG
721 SQAGSSERTRVRANSKSEGS PVL PHEPAKVKPEESRDITRPSRPASYKKAIDEDLTALAK
781 ELRELRIEETNRPMKKVTDYSSSESESESESESESETHDGTAVSDIPRLIPTGAP
841 GSNEQYNVGMVGTHGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFAGHINL
901 PDLVQQSHSPAGTPTTEGLGRVSTHSQEMDSGTEYGMGSSSTKASFTPFVDP RVYQTSPTDE
961 DEEDESSAAALFTSELLRQEQAKLNEARKISVNVNPTNIRPHSDTPEIRKYKKRFNSE
1021 ILCAALWGVNLLVGTENGLMLLDRSGQKVYNLINRRRFQQMDVLEGLNVLVTISGKKNK
1081 LRVYVLSWLRNRIILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIY
1141 AWAPKPYHKFMFAKSFADLQHKP LLVDLTVEEGQRLKVI FGSHTGFHVIDVDSGNSYDIY
1201 IPSHIQGNITPHAIVILPKTDGMEMLVCEYDEGVYVNTYGRITKDVVLQW GEMPTSVAYI
1261 HSNQIMGWGEKAIEIRS VETGHLDDGVFMHKRAQRLKFLCERNDKVFFASVRSGGSSQVFF
1321 MTLNRNSMMNWZ

FIG.-29



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1 MASDSPARSLDEIDL SALRDPAGIFELVGNNGTYGVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEIINMLKKYSHHRNIATYGAFIKKNPPGMDQLWLVMFCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKQONVLLTENAEEVKLVDFGVSAQLDR
181 TVGRRNTFIGTPYWMAPEVIA CDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241 ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVNHSQRPATEQLMKHPFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEYSGSEEEEEENDSGEPSSIINLPGESTLRRDFLRLQLA
361 NKERSEALRRQQLLEQQORENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRRREKELRKQOE
421 REQRRHYEEQMRREERERRAEHEQEYIRRLQLEEEQRQLEILQQQLLHEQALLLEYKRKQL
481 EEQRQAERLQRLKQERDYLVS LQHQRQEORPVEKKPLHYHYKEGMSPEKPAWAKEI PHL
541 VAVKSQGPALTASQSVHEQPTKGLSGFQEA LNVTS HRVEMPRQNSDPTSENPPLPTRIEK
601 FDRSSWL RQEEDI PPKVPQRTTISPALARKNSPGNGSALGPRLGSQPIRASNPDLR RTE
661 PILESPLQRTSSGSSSSSTPSSQSGSQSGSSETRVRANSKSEGS PVL PHE
721 PAKVKPEESRDITRPSRPASYKKAIDEDLTALAKELRELRIEETNRPMKKVTDYSSSSEE
781 SESSEEEEEGESETHDGTVAVSDIPRLIPTGAPGSNEQYNVGMVGTGHLETSHADSFSG
841 SISREGTLMIRETSGEKKRSGHSDSNGFAGHINLPDLVQQSHSPAGTPTEGLGRVSTHSQ
901 EMDSGTEYGMGSSTKASFTPFVDP RVYQTSPTDEDEEDEESSAAALFTSELRLRQEQA KLN
961 EARKISVNVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWGVNLLVGTENGLMLLDRSG
1021 QGKVYNLINRRRFQQMDVLEGLNVLTISGKKNKL RVYYLSWLRNRI LHNDPEVEKKQGW
1081 ITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIYAWAPKPYHKFMAFKSFADLQHKP LLLV
1141 DLTVEEGQRLKVI FGSHTGFHVIDVDSGNSYDIYIPSHIQGNITPHAI VILPKTDGMEML
1201 VCYEDEGVVNTYGRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAIEIRSVETGHL DGV
1261 FMHKRAQRLKFLCERNDKVFFASVRSGSSQVFFMTLNRNSMMNWZ

FIG.--30

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1 MASDSPARSLDEIDLSALRDPAGIFELVELVGNNGTYGVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEIINMLKKYSHHRNIAITYGAFIKNPPGMDDQLWLVMFCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLQHKVIHRDIKQNVLLTENA EVKL VDFGVSAQLDR
181 TVGRRNTFIGTPYMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241 ALFLIPRNPAPRLKSKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEGSEEEEEENDSGEPSSIINLPGESTLRRDFLRLQLA
361 NKERSEALRRQQLQQORENEEHKRLQLAERQKRIEEQKEQRRRLLEEQQRRKEKELRKQOE
421 REQRRHYEEQMRREERARRAEHEQEYIRRLQLEEEQRQLEILQQQLLHEQALLLEYKRKQL
481 EEQRQAERLQRLQKQERDYLVSLOHQREQRPVEKKPLYHYKEGMSPEKPAWAKEVEER
541 SRLNRQSSPAMPHKVNRI SDPNLPPRSEFSISGVQPARTPPMLRPVDPQIPHVLAVKS
601 QGPALTASQSVHEQPTKGLSGFQEA LNVTSHRVEMPRQNSDPTSENPPLPTRIEKFDRSS
661 WLRQEEDIPPKVPQRTTISPALARKNSPGNGSALGPRLSQPIRASNPDLRRTPEPILES
721 PLQRTSSGSSSSSTPSSQPGSGSQPGSSERTRVRANSKSEGPSVLPHEPAKVK
781 PEESRDITRPSRPADLTALAKELRELRIEETNRPKKVTDYSSSSSESESESESEEDGES
841 ETHDGTAVSDIPRLIPTGAPGSNEQYNVGMVGTGLETSHADSFSGSISREGTLMIRET
901 SGEKKRSGHSDSNGFAGHINLPDLVQQSHSPAGTPTTEGLGRVSTHSQEMDSGTEYGMGSS
961 TKASFPTFPVDPVRVYQTSPTDEDEDEESSAAALFTSELLRQEQAKLNEARKISVVNVNPT
1021 NIRPHSDTPEIRKYKRRFNSEILCAALWGVNLLVGTENGIMLLDRSGQKVYNLINRRRF
1081 QQMDVLEGLNVLVTISGKKNKLRVYVYLSWLRNRI LHNDPEVEKKQGWITVGDLEGCIHYK
1141 VVKYERIKFLVIALKNAVEIYAWAPKPYHKFMAFKSFADLQHKPLLVDLTVEEGQRLKVI
1201 FGSHTGFHVIDVDSGNSYDIYIPSHIQGNITPHAI VILPKTDGMEMLV CYEDEGVYVNTY
1261 GRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAI EIRSVETGHL DGVFMHKRAQRLKFLC
1321 ERNDKVVFFASVRSGGSSQVFFMTLNRNSMMNWZ

FIG._31





1 MASDSPARSLDEIDLALRDPAGIFELVGNNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEIINMLKKYSHHRNIATYYGAFIKKNPPGMDQLWLVMFCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLQHKKV IHRDIKGQNVLLTENAIEVKLVDFGVSAQLDR
181 TVGRRNTFIGTPYMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHMPMR
241 ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSORPATEQLMKHPFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEGSEEEEEENDSGEPSSILNLPGESTLRRDFLRLQLA
361 NKERSEALRRQQLQQORENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRRREKELRKQOE
421 REQRRHYEEQMRREERRAEHEQEYKQKQLEEQRAERLQRLKQERDYLVS LQHQRQE
481 QRPVEKKPLYHYKEGMSPEKPAWAKEI PHLVAVKSQGPALTASQSVHEQPTKGLSGFQE
541 ALNVTSHRVEMPRQNSDPTSENPPLPTRIEKFDRSSWL RQEE DIPKVPQRTTSSIPALA
601 RKNSPGNGSALGPRLGSP IRASNPDLRRTEPILESPLQRTSSGSSSSSTPSSQSSQG
661 GSQPGSQAGSSERTRVRANSKSEGSVLPHEPAKVKEESRDITRPSRPASYKKAIDEDL
721 TALAKELRELRIEETNRPMMKVTDYSSSSSESESESESETHDGTAVASDIPRLI
781 PTGAPGSNEQYNVGMVGTGTHGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFA
841 GHINLPDLVQQSHSPAGTPTEGLGRVSTHSQEMDSGTEYGMGSSTKASFTFPVDPVYQT
901 SPTDEDEEDEESSAAALFTSELLRQEQAKLNEARKISVVNVNPTNIRPHSDTPEIRKYKK
961 RFNSEILCAALWGVNLLVGTENGLMLLDRSGQGVYNLINRRRFQQMDVLEGLNVLVTIS
1021 GKKNKLRVYVYLSWLRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKN
1081 AVEIYAWAPKPYHKFMFKSFADLQHKPLLDLTVEEGQRLKVI FGSHTGFHV IDVDSGN
1141 SYDIYIPSHIQGNITPHAIIVILPKTDGMEMLVCYEDEGVYVNTYGRITKDVVLQWEMPT
1201 SVAYIHSNQIMGWGEKAI EIRSVETGHLDGVMHKRAQRLKFLCERNDKVFFASVRS GGS
1261 SQVFFMTLNRNSMNNWZ

FIG.-32

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1 MASDSPARSLDEIDLALRDPAGIFELVELVNGTYGVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEIINMLKKYSHHRNIATYYGAFIKKNPPGMDDQLWLVMFCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLHQHKVIHRDIKGQNVLLTENA EVKLVD FGVSAQLDR
181 TVGRRNTFIGTPYMAPEVIA CDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHMPMR
241 ALFLIPRNPAPRLKSKKWSKKFQSFIESCLVKNHSQRPATEQLMKHPFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEYSGSEEEEEENDSGEPSSIINLPGESTLRRDFLRLQLA
361 NKERSEALRRQQLLEQQORENEEHKRQLLAERQKRIEEQKEQRRRLEEQQRREKELRKQOE
421 REQRRHYEEQMRREERRAEHEQEYKRKQLEEQQAERLQRLQKQERDYLVS LQHQRQE
481 QRPVEKKPLYHYKEGMSPEKPAWAKEVEERSRLNRQSSPAMPHKVANRISDPNLP PRSE
541 SFSISGVQPARTPPMLRPVDPQI PHLVAVKSQGPALTASQSVHEQPTKGLSGFQEALNVT
601 SHRVEPRQNSDPTSENPPLPTRIEKFDRSSWL RQEEDI PPKVPQRTTISPALARKNSP
661 GNGSALGPRLGSQPIRASNPDLRRRTEPILESPLQRTSSGSSSSSTPSSQSSQSGSQPG
721 SQAGSSERTRVRANSKSEGSPVLPHEPAKVKPEESRDITRPSRPADLTALAKELRELRIE
781 ETNRP MKKVTDYSSSSESESESESETHDGTVAVSDIPRLIPTGAPGSNEQYNV
841 GMVGTGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFAGHINLPDLVQQSH
901 SPAGTPTGLGRVSTHSQEMDSGTEYGMGSSTKASFTPFVDPRVYQTSPTDEDEDEESS
961 AAALFTSELRLRQEQA KLINEARKISVNVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWG
1021 VNLLVGTENGLMLLDRSGQGKVYNLINRRRFQQMDVLEGLNVLTISGKKKCLRYYLSW
1081 LRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIYAWAPKPYH
1141 KFMAFKSFADLQHKPLLVDLTVEEGQRLKVI FGSHTGFHVIDVDSGNSYDIYIPSHIQGN
1201 ITPHAIIVILPKTDGMEMLVCYEDEGVYVNTYGRITKDVVLQWGEEMPTSVAYIHSNQIMGW
1261 GEKAIEIRSVETGHLGDGVFMHKRAQRLKFLCERNDKVFFASVRSGSSQVFFMTLNRNSM
1321 MNWZ

FIG._33





1 MASDSPARSLDEIDLALRDPAGIFELVELVGNNGTYGQVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEIINMLKKYSHHRNIATYGAFIKKNPPGMDQLWLVMFCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLQHKKVIHRDIKQNVLLTENAENVKLVDGVSQAQLDR
181 TVGRRNTFIGTPYMAPEVIAACDENPDATYDFKSDLSLGITAIEMAEGAPPLCDMHPMR
241 ALFLIPRNPAPRLKSKWSKKFQSFIESCLVNHSQRPATEQLMKHPFFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEGSEEEEEENDSGEPSSILNLPGESTLRRDFLRQLA
361 NKERSEALRRQLEQQORENEEHKRQLLAERQKRIEEQEQRRRLLEEQQRREKELRKQOE
421 REQRRHYEEQMRREERRAEHEQEYIRRRQLEEEQRQLEILQQQLLHEQALLLEYKRKQL
481 EEQQAERLQRLQKQERDYLVSLSLQHQRQEQRPVEKKPLYHYKEGMSPEKPAWAKEIPHL
541 VAVKSQGPALTASQSVHEQPTKGLSGFQEAALNVTSHRVEPRQNSDPTSENPLPTRIEK
601 FDRSSWLQREEDI PPKVPQRTTISIPALARKNSPGNGSALGPRLGSQPIRASNPDLRRTE
661 PILESPLQRTSSGSSSSSTPSSQPSQSGSQAGSSERTRVRANSKSEGSPLPHE
721 PAKVPEESRDI TRPSRPADLTALAKELRELRIEETNRPMKKVTDYSSSESESESESE
781 EDGESETHDGTAVSDIPRLIPTGAPGSNEQYNVGMVGTGLETSHADSFSGSI SREGTL
841 MIRETSGEKKRSGHSDSNGFAGHINLPDLVQQSHSPAGTPTTEGLGRVSTHSGEMDSGTEY
901 GMGSSTKASFTPFVDPVRVYQTSPTDEDEDEEESAAALFTSELLRQEQAKLNEARKISVV
961 NVNPTNIRPHSDTPEIRKYKKRFNSEILCAALWGVNLLVGTENGLMLLDRSGQGVNLI
1021 NRRRFQQMDVLEGLNVLVTISGKKNKLRYVYLSWLRNRIILHNDPEVEKKQGWITVGDLEG
1081 CIHYKVVKYERIKFLVIALKNAVEIYAWAPKPYHKFMAFKSFADLQHKPLLVDLTVEEGQ
1141 RLKVI FGSHGTGFHVIDVDSGNSYDIYIPSHIQGNITPHAIIVLPKTDGMEMLVCYEDEGV
1201 YVNTYGRITKDVVLQWGEMPTSVAYIHSNQIMGWGEKAIEIRS VETGHLGDGVFMHKRAQR
1261 LKFLCERNDKVFFASVRSGGSSQVFFMTLNRNSMMNWZ

FIG.-34



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1 MASDSPARSLDEIDL SALRDPAGIFELVELVNGTYGVYKGRHVKTGQLAAIKVMDVTG
61 DEEEIKQEINMLKKYSHHRNIATYYGAFIKKNPPGMDQLWLMEFCGAGSVTDLIKNT
121 KGNTLKEEWIAYICREILRGLSHLHQHKV IHRDIKGQNVLLTENA EVKL VDFGVSAQLDR
181 TVGRRNTFIGTPYMAPEVIACDENPDATYDFKSDLWSLGITAIEMAEGAPPLCDMHPMR
241 ALFLIPRNPAPRLKSKKWSKKFFQSFIESCLVNHSQRPATEQLMKHPFIRDQPNERQVRI
301 QLKDHIDRTKKRGEKDETEYEYSGSEEEEEENDSGEPSSIINLPGESTLRRDFLRQLA
361 NKERSEALRRQQLQEQQRENEEHKRQLLAERQKRIEEQEQRRRLEEQQRRKEKELRKQQE
421 REQRRHYEEQMRRERERRAEHEQEYKRKQLEEQRAERLQRLKQERDYLVS LQHQRQE
481 QRPVEKKPLYHYKEGMSPEKPAWAKEI PHLVAVKSQGPALTASQSVHEOPTKGLSGFQE
541 ALNVTSHRVEMPRQNSDPTSENPPLPTRIEKFDRSSWL RQEEDI PPKV PQR TTSISPALA
601 RKNSPGNGSALGPRLGSQPIRASNPDLRRTEPILESPLQRTSSGSSSSSTPSSQPSQSG
661 GSQPGSQAGSSERTRVRANSKSEGS PVL PHEPAKVKEESRDI TRPSRPADLTALAKELR
721 ELRIEETNRPMKKVTDYSSSSESESESESETHDGTAVASDIPRLIPTGAPGSN
781 EQYNVGMVGTGLETSHADSFSGSISREGTLMIRETSGEKKRSGHSDSNGFAGHINLPDL
841 VQQSHSPAGTPTTEGLGRVSTHSQEMDSGTEYGMGSSTKASFTPFDPRVYQTSPTDEDEE
901 DEESSAAALFTSELLRQEQA KLN EARKISVNVNPTNIRPHSDTPEIRKYKKRFNSEILC
961 AALWGVNLLVGTENGLMLLDRSGQGVYNLINRRRFQMDVLEGLNVLTISGKKNKLRV
1021 YYLSWLRNRILHNDPEVEKKQGWITVGDLEGCIHYKVVKYERIKFLVIALKNAVEIYAWA
1081 PKPYHKFMAFKSFADLQHKPLLVDLTVEEQRLKVI FGSHTGFHVIDVDSGNSYDIYIPS
1141 HIQGNITPHAIIVLPKTDGMEMLV CYEDEGVVNTYGRITKDVVLQW GEMPTSVAYIHSN
1201 QIMGWGEKAIEIRSVETGHL DGVFMHKRAQRLKFLCERNDKVFFASVRS GGSSQVFFMTL
1261 NRNSMMNWZ

FIG. 35